

BEFORE THE  
PUBLIC SERVICE COMMISSION OF WISCONSIN

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Joint Application of Wisconsin Electric Power Company  
and Wisconsin Gas LLC, for Authority To Adjust  
Electric, Natural Gas and Steam Rates – Test Year 2020

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Docket No. 05-UR-109

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DIRECT TESTIMONY OF ANN E. BULKLEY

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1    **I.    INTRODUCTION AND QUALIFICATIONS**

2    **Q.    Please state your name and business address.**

3    A.    My name is Ann E. Bulkley. -My business address is Concentric Energy Advisors, Inc.  
4           (“Concentric”), 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts  
5           01752.

6    **Q.    What is your position with Concentric?**

7    A.    I am employed by Concentric as a Senior Vice President.

8    **Q.    On whose behalf are you submitting this Direct Testimony?**

9    A.    I am submitting this Direct Testimony on behalf of Wisconsin Electric Power Company  
10           (“WEPCO”) and Wisconsin Gas (“WG”) (collectively “We Energies” or “the  
11           Companies”).

12   **Q.    Please describe your education and experience.**

13   A.    I hold a Bachelor’s degree in Economics and Finance from Simmons College and a  
14           Master’s degree in Economics from Boston University, with more than 20 years of  
15           experience consulting to the energy industry. I have advised numerous energy and utility  
16           clients on a wide range of financial and economic issues with primary concentrations in

1 valuation and utility rate matters. Many of these assignments have included the  
2 determination of the cost of capital for valuation and ratemaking purposes. I have  
3 included my resume in Ex.-WEPCO WG-Bulkley-1.

4 **Q. Please describe Concentric’s activities in energy and utility engagements.**

5 A. Concentric provides financial and economic advisory services to many and various  
6 energy and utility clients across North America. Our regulatory, economic, and market  
7 analysis services include utility ratemaking and regulatory advisory services; energy  
8 market assessments; market entry and exit analysis; corporate and business unit strategy  
9 development; demand forecasting; resource planning; and energy contract negotiations.  
10 Our financial advisory activities include buy and sell-side merger, acquisition and  
11 divestiture assignments; due diligence and valuation assignments; project and corporate  
12 finance services; and transaction support services. In addition, we provide litigation  
13 support services on a wide range of financial and economic issues on behalf of clients  
14 throughout North America.

15 **Q. Have you testified before any regulatory authorities?**

16 A. Yes. A list of proceedings in which I have provided testimony and a summary of that  
17 testimony is provided in Ex.-WEPCO WG-Bulkley-1.

18 **II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY**

19 **Q. What is the purpose of your Direct Testimony?**

20 A. The purpose of my Direct Testimony is to present evidence and provide a  
21 recommendation regarding the appropriate Return on Equity (“ROE”)<sup>1</sup> for the

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<sup>1</sup> Throughout my Direct Testimony, I interchangeably use the terms “ROE” and “cost of equity”.

1 Companies' electric and natural gas utility operations in Wisconsin and to provide an  
2 assessment of their proposed capital structures to be used for ratemaking purposes. My  
3 analyses and recommendations are supported by the data presented in Exhibits Ex.-  
4 WEPCO WG-Bulkley-2 through Ex.-WEPCO WG-Bulkley-20, which were prepared by  
5 me or under my direction.

6 **Q. Please provide a brief overview of the analyses that led to your ROE**  
7 **recommendation.**

8 A. As discussed in more detail in the remainder of my Direct Testimony, it is important to  
9 consider the results of several analytical approaches in determining a reasonable  
10 recommendation for the Companies' ROE. To develop my ROE recommendation, I  
11 developed two proxy groups, the Combined Utility Proxy Group ("CUPG"), and the  
12 Natural Gas Proxy Group ("NGPG"). The CUPG will be used to establish the appropriate  
13 ROE for WEPCO and contains companies that are combination electric and natural gas  
14 utilities, while the NGPG contains only natural gas utilities and will be used to determine  
15 the appropriate ROE for WG. In each case, the proxy group consists of companies that  
16 face risk generally comparable to that faced by WEPCO and WG, respectively. I applied  
17 the Constant Growth form of the Discounted Cash Flow ("DCF") model, the Capital  
18 Asset Pricing Model ("CAPM") and the Risk Premium Approach. My recommendation  
19 also takes into consideration additional risk factors as compared to the CUPG in the case  
20 of WEPCO and the NGPG in the case of WG: (1) the Companies' capital expenditure  
21 requirements; (2) the regulatory environment in which the Companies operate; (3) the  
22 Companies adjustment mechanisms; (4) the Companies' customer concentration risk; and  
23 (5) the fuel sources of WEPCO's generation portfolio. Finally, I considered the

1 Companies' proposed capital structures in comparison to the capital structures of the  
2 utility operating subsidiaries of the proxy companies in each of my respective utility  
3 proxy groups.<sup>2</sup> While I did not make any specific adjustments to my ROE estimates for  
4 any of these factors, I did take them into consideration in aggregate when determining  
5 where the Companies' ROE falls within the range of analytical results.

6 **Q. What is your recommendation with respect to the ROE and equity ratio?**

7 A. Based on the results of the traditional ROE estimation models, the review of current and  
8 prospective market conditions and the business risks discussed in the remainder of my  
9 testimony, I conclude that a reasonable range for the ROE for WEPCO and WG is  
10 between 10.00 percent and 10.75 percent. Within that range, I believe that an ROE of  
11 10.35 percent for WEPCO and an ROE of 10.30 percent for WG are reasonable and  
12 appropriate.

13 In order to determine the reasonableness of the Companies' proposed equity ratios, I have  
14 reviewed the equity ratios of the utility subsidiary operating companies of the proxy  
15 companies. In addition, I have considered the trends in the industry and the effects of the  
16 Tax Cuts and Jobs Act ("TCJA") on utility credit metrics. Based on this information, I  
17 conclude that an equity ratio of 53.99 percent for WEPCO and an equity ratio of 51.52  
18 percent for WG are reasonable.

19 **Q. How is the remainder of your Direct Testimony organized?**

20 A. Section III provides a summary of my analyses and conclusions. Section IV reviews the  
21 regulatory guidelines pertinent to the development of the cost of capital. Section V

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<sup>2</sup> The selection and purpose of developing a group of comparable companies will be discussed in detail in Section VI of my Direct Testimony.

discusses current and projected capital market conditions and the effect of those conditions on WEPCO's and WG's cost of equity. Section VI explains my selection of the Combined Utility and Natural Gas Proxy Groups. Section VII describes my analyses and the analytical basis for the recommendation of the appropriate ROEs for WEPCO and WG. Section VIII provides a discussion of specific regulatory, business, and financial risks that have a direct bearing on the ROEs to be authorized for WEPCO and WG in this case. Section IX assesses the proposed capital structures of WEPCO and WG as compared with the capital structures of the utility operating subsidiaries of the respective proxy group companies. Section X presents my conclusions and recommendations for WEPCO's and WG's market cost of equity.

### **III. SUMMARY OF ANALYSIS AND CONCLUSIONS**

**Q. Please summarize the key factors considered in your analyses and upon which you base your recommended ROE.**

**A.** My analyses and recommendations considered the following:

- The *Hope* and *Bluefield* decisions<sup>3</sup> that established the standards for determining a fair and reasonable allowed ROE, including consistency of the allowed return with other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and that the result must lead to just and reasonable rates.
- The effect of current and projected capital market conditions on investors' return requirements.

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<sup>3</sup> Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944); Bluefield Waterworks & Improvement Co. v. Public Service Commission of West Virginia, 262 U.S. 679 (1923).

- The Companies' regulatory, business, and financial risks relative to their respective proxy group of comparable companies and the implications of those risks in arriving at the appropriate ROE for WEPCO and WG.

**Q. Please explain how you considered those factors.**

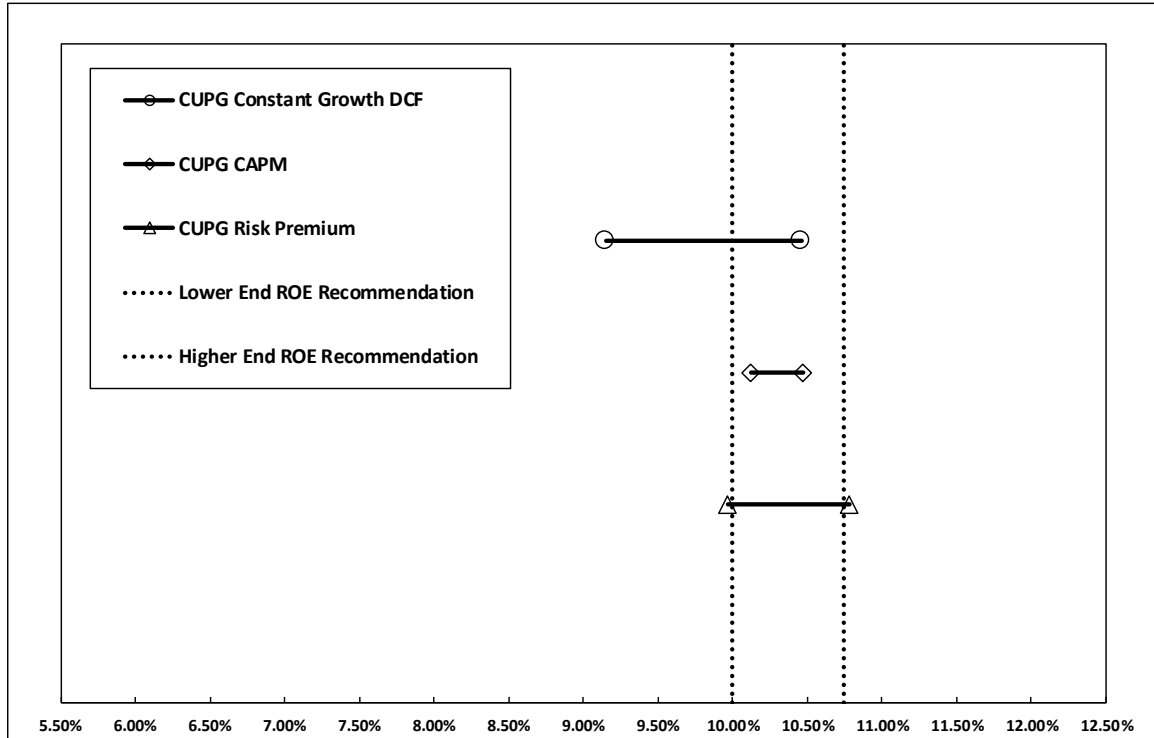
A. I have relied on several analytical approaches to estimate the Companies' cost of equity based on a proxy group of publicly traded companies. As shown in Figure 1 and Figure 2, those ROE estimation models produce a wide range of results. My conclusion as to where within that range of results WEPCO's and WG's ROE falls is based on the Companies' business and financial risk relative to their respective proxy groups. Although the companies in each of my respective proxy groups are generally comparable to the Companies, each company is unique and no two companies have the exact business and financial risk profiles. Accordingly, for each of the Companies, we settle on a proxy group with similar, but not the same risk profiles; and adjust the results of our analysis either upwards or downwards to account for any residual differences in risk.

**Q. Please summarize the ROE estimation models that you considered to establish the range of ROEs for WEPCO and WG.**

A. I considered the results of the Constant Growth DCF model using current dividends, earnings growth rates and stock prices. In addition, I considered two risk premium approaches: the CAPM and a Bond Yield Plus Risk Premium methodology. Figure 1 and Figure 2 summarize the range of results established using each of these estimation methodologies.

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**Figure 1: Summary of Cost of Equity Analytical results for WEPCO<sup>4</sup>**

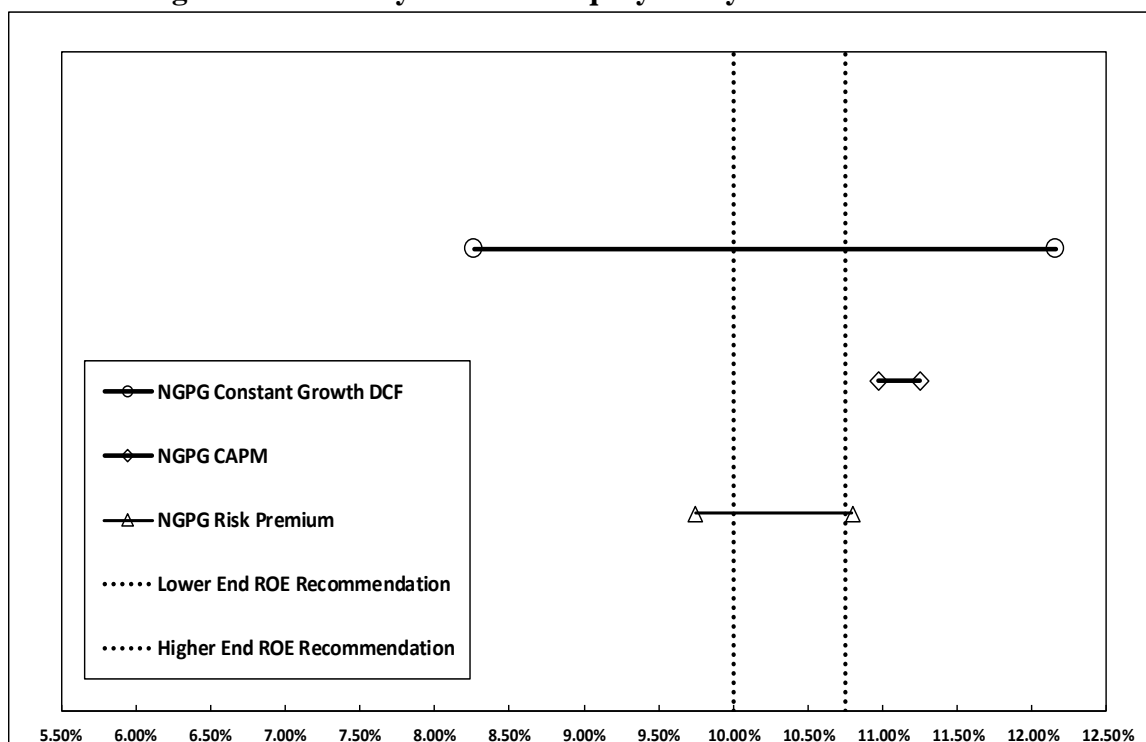


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<sup>4</sup>

The analytical results reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

**Figure 2: Summary of Cost of Equity Analytical results for WG<sup>5</sup>**



As shown on Figure 1 and Figure 2 (and in Ex.-WEPCO WG-Bulkley-2), the range of the DCF model results is wide, particularly in relation to the results of the other methodologies. While it is common to consider multiple models to estimate the cost of equity, it is particularly important when the range of results of one of the models is especially wide.

The requested ROE is for the future rate period; therefore, the analyses supporting my recommendations rely on forward-looking inputs and assumptions (e.g., projected growth rates in the DCF model, forecasted risk-free rate of return and Market Risk Premium in the CAPM analysis, etc.) and takes into consideration the current high valuations of utility stocks and the market's expectation for higher interest rates. The use of historical

<sup>5</sup> The analytical results reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.



1 inputs and assumptions would tend to understate the required ROE for WEPCO and WG,  
2 when considering the effect of market conditions on those inputs and assumptions.

3 As discussed in more detail in Sections V and VII, the DCF models are influenced by  
4 current market conditions that are not expected to prevail in the long-term. Those  
5 conditions result in lower estimates of the ROE using the DCF model. For example, the  
6 30-day average median low Constant Growth DCF<sup>6</sup> result (prior to exclusions for  
7 outliers) was 8.95 percent for the CUPG which is below an acceptable range of returns  
8 for an electric utility and is below any authorized ROE for an integrated electric utility in  
9 the U.S. since at least 1980.<sup>7</sup> Similarly, the 30-day average median low Constant Growth  
10 DCF result (prior to exclusions for outliers) was 7.87 percent for the NGPG, which is  
11 below an acceptable range of returns for a natural gas utility and is below any authorized  
12 ROE for a natural gas utility in the U.S. since at least 1980.<sup>8</sup> Based on prospective capital  
13 market conditions, and the inverse relationship between the market risk premium and  
14 interest rates, I conclude that the median low DCF results do not provide a sufficient risk  
15 premium to compensate equity investors for the residual risks of ownership, including the  
16 risk that they have the lowest claim on the Companies' assets and income.

17 Due to these concerns about the results produced by the DCF model, my ROE  
18 recommendation considers the mean and mean-high results of the DCF model, a forward-  
19 looking CAPM analysis, and a Bond Yield plus Risk Premium analysis. I also consider  
20 company-specific risk factors and current and prospective capital market conditions.

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<sup>6</sup> My DCF models generated a median low, median, and median high result. The median low result is the median of the proxy group DCF results calculated using the lowest earnings growth rate for each company from Value Line, Yahoo! Finance or Zacks.

<sup>7</sup> Regulatory Research Associates, Rate Case History (Integrated Electric Utility) January 1, 1980 – January 31, 2019.

<sup>8</sup> Regulatory Research Associates, Rate Case History (Natural Gas Utility) January 1, 1980 – January 31, 2019.

1   **Q.     What is your recommended ROE for WEPCO and WG?**

2   A.     In addition to the analytical results presented in Figure 1 and Figure 2, I also considered  
3           the level of regulatory, business, and financial risk faced by the Companies relative to  
4           their respective proxy groups to establish the range of reasonable returns. Considering  
5           these factors, I believe a range from 10.00 to 10.75 percent is reasonable for both  
6           WEPCO and WG. This recommendation reflects the range of results for the companies in  
7           the Combined Utility and Natural Gas Proxy Groups, the relative risk of the Companies  
8           as compared to their respective proxy group, and current capital market conditions.  
9           Within that range, I believe a return of 10.35 percent is reasonable for WEPCO and a  
10          return of 10.30 percent is reasonable WG.

11   **Q.     Please summarize the analysis you conducted in determining that the Companies’**  
12          **requested capital structure is reasonable and appropriate.**

13   A.     Based on the analysis presented in Section IX of my testimony, I conclude that an equity  
14          ratio of 53.99 percent for WEPCO and an equity ratio of 51.52 percent for WG are  
15          reasonable and appropriate. To determine if the Companies’ requested capital structure  
16          was reasonable, I reviewed the capital structures of the utility subsidiaries of the  
17          companies in my Combined Utility and Natural Gas Proxy Groups. As shown in Ex.-  
18          WEPCO WG-Bulkley-18, the results of that analysis for the CUPG demonstrate that the  
19          average equity ratios for the utility operating companies of the CUPG range from 46.27  
20          percent to 54.97 percent. An equity ratio of 53.99 percent is in the range established by  
21          the proxy group. The results for the NGPG are shown in Ex.-WEPCO WG-Bulkley-19  
22          and indicate that the average equity ratios for the utility operating companies of the proxy  
23          group range from 47.00 percent to 63.18 percent. WG’s proposed equity ratio of 51.52

1 percent is reasonable within that range. As discussed in more detail in the Direct  
2 Testimony of Mr. Todd Shipman, Federal tax reform has resulted in weakening of utility  
3 cash flow and credit metrics that has led utilities to increase equity issuances in 2018.  
4 Considering this trend and the range established by the equity ratios of the proxy  
5 companies, I conclude that the proposed equity ratios for WEPCO and WG are  
6 reasonable.

#### 7 **IV. REGULATORY GUIDELINES**

8 **Q. Please describe the guiding principles to be used in establishing the cost of capital**  
9 **for a regulated utility.**

10 A. The United States Supreme Court's *Hope* and *Bluefield* cases established the standards  
11 for determining the fairness or reasonableness of a utility's allowed ROE. Among the  
12 standards established by the Court in those cases are: (1) consistency with other  
13 businesses having similar or comparable risks; (2) adequacy of the return to support  
14 credit quality and access to capital; and (3) that the result, as opposed to the methodology  
15 employed, is the controlling factor in arriving at just and reasonable rates.<sup>9</sup>

16 **Q. Has the Commission provided similar guidance in establishing the appropriate**  
17 **return on common equity?**

18 A. Yes, it has. For example, in Northern States Power Company-Wisconsin's test year 2018  
19 rate case, the Commission provided an overview of its standards for setting ROE:

20 The principal factor used to determine the appropriate return on  
21 equity is the investors' required return. Authorized returns less than  
22 the investors' required return would fail to compensate capital  
23 providers for the risks they face when providing funds to the utility.  
24 Such sub-par returns would make it difficult for a utility to raise

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<sup>9</sup> *Hope*, 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923).

1 capital on an ongoing basis. On the other hand, authorized returns  
2 that exceed the investors' required return would provide windfalls to  
3 utility investors as they would receive returns that are in excess of  
4 reasonable expectations.<sup>10</sup>

5 This guidance is in accordance with my view that an allowed rate of return must be  
6 sufficient to enable regulated companies, like WEPCO and WG, the ability to attract  
7 capital on reasonable terms.

8 **Q. Why is it important for a utility to be allowed the opportunity to earn an ROE that**  
9 **is adequate to attract capital at reasonable terms?**

10 A. An ROE that is adequate to attract capital at reasonable terms enables the Companies to  
11 continue to provide safe, reliable electric, gas and steam service while maintaining its  
12 financial integrity. To the extent the Companies are provided the opportunity to earn their  
13 market-based cost of capital, neither customers nor shareholders are disadvantaged.

14 **Q. Is a utility's ability to attract capital also affected by the ROEs that are authorized**  
15 **for other utilities?**

16 A. Yes. Utilities compete directly for capital with other investments of similar risk, which  
17 include other natural gas and electric utilities. Therefore, the ROE authorized for a utility  
18 sends an important signal to investors regarding whether there is regulatory support for  
19 financial integrity, dividends, growth, and fair compensation for business and financial  
20 risk. The cost of capital represents an opportunity cost to investors. If higher returns are  
21 available for other investments of comparable risk, investors have an incentive to direct  
22 their capital to those investments. Thus, an authorized ROE significantly below

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<sup>10</sup> Final Decision, at 29-30, PSCW Docket No. 4220-UR-123 (Dec. 21, 2017).

1 authorized ROEs for other natural gas and electric utilities can inhibit the utility's ability  
2 to attract capital for investment in Wisconsin.

3 Likewise, because WEPCO and WG are subsidiaries of WEC Energy Group, Inc.  
4 ("WEC"), the Companies compete with the other WEC subsidiaries for investment  
5 capital. These include utilities regulated by other state commissions, including Michigan,  
6 Illinois and Minnesota. In determining how to allocate its finite capital resources, it  
7 would be reasonable for WEC to consider the authorized ROE of each of its subsidiaries.

8 **Q. What are your conclusions regarding regulatory guidelines?**

9 A. The ratemaking process is premised on the principle that, for investors and companies to  
10 commit the capital needed to provide safe and reliable utility services, a utility must have  
11 the opportunity to recover the return of, and the market-required return on, its invested  
12 capital. Because utility operations are capital-intensive, regulatory decisions should  
13 enable the utility to attract capital at reasonable terms under a variety of economic and  
14 financial market conditions; doing so balances the long-term interests of the utility and its  
15 ratepayers.

16 The financial community carefully monitors the current and expected financial condition  
17 of utility companies, and the regulatory framework in which they operate. In that respect,  
18 the regulatory framework is one of the most important factors in both debt and equity  
19 investors' assessments of risk. The Commission's order in this proceeding, therefore,  
20 should establish rates that provide the Companies with the opportunity to earn an ROE  
21 that is: (1) adequate to attract capital at reasonable terms under a variety of economic and  
22 financial market conditions; (2) sufficient to ensure good financial management and firm  
23 integrity; and (3) commensurate with returns on investments in enterprises with similar

1 risk. To the extent WEPCO and/or WG are authorized the opportunity to earn their  
2 market-based cost of capital, the proper balance is achieved between customers' and  
3 shareholders' interests.

4 **V. CAPITAL MARKET CONDITIONS**

5 **Q. Why is it important to analyze capital market conditions?**

6 A. The ROE estimation models rely on market data that are either specific to the proxy  
7 group, in the case of the DCF model, or to the expectations of market risk, in the case of  
8 the CAPM. The results of the ROE estimation models can be affected by prevailing  
9 market conditions at the time the analysis is performed. While the ROE that is established  
10 in a rate proceeding is intended to be forward-looking, the analyst uses current and  
11 projected market data, specifically stock prices, dividends, growth rates and interest rates  
12 in the ROE estimation models to estimate the required return for the subject company.  
13 As is discussed in the remainder of this section, a number of analysts and regulatory  
14 commissions have concluded that current market conditions are anomalous and that these  
15 conditions have affected the results of the ROE estimation models. As a result, it is  
16 important to consider the effect of these conditions on the ROE estimation models when  
17 determining the appropriate range and recommended ROE for a future period. If  
18 investors do not expect current market conditions to be sustained in the future, the ROE  
19 estimation models will not provide an accurate estimate of investors' required return  
20 during that rate period. Therefore, it is very important to consider projected market data  
21 to estimate the return for that forward-looking period to the extent that such data are  
22 available.

1   **Q.     What factors are affecting the cost of equity for regulated utilities in the current and**  
2       **prospective capital markets?**

3   A.     The cost of equity for regulated utility companies is being affected by several factors in  
4       the current and prospective capital markets, including: (1) the current low interest rate  
5       environment and the corresponding effect on valuations and dividend yields of utility  
6       stocks relative to historical levels; (2) the market's expectation for higher interest rates;  
7       and (3) recent Federal tax reform. In this section, I discuss each of these factors and how  
8       it affects the models used to estimate the cost of equity for regulated utilities.

9       **A. The Effect of Market Conditions on Valuations**

10   **Q.     How has the Federal Reserve's monetary policy affected capital markets in recent**  
11       **years?**

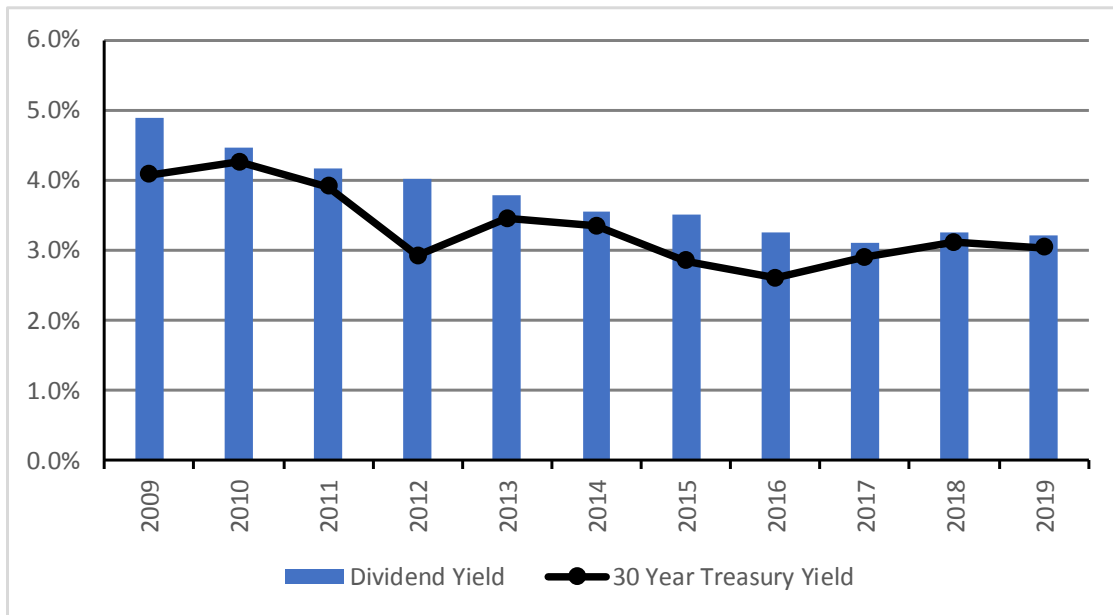
12   A.     Extraordinary and persistent federal intervention in capital markets artificially lowered  
13       government bond yields after the Great Recession of 2008-2009, as the Federal Open  
14       Market Committee ("FOMC") used monetary policy (both reductions in short-term  
15       interest rates and purchases of Treasury bonds and mortgage-backed securities) to  
16       stimulate the U.S. economy. As a result of very low or zero returns on short-term  
17       government bonds, yield-seeking investors have been forced into longer-term  
18       instruments, bidding up prices and reducing yields on those investments. As investors  
19       have moved along the risk spectrum in search of yields that meet their return  
20       requirements, there has been increased demand for dividend-paying equities, such as gas  
21       and electric utility stocks.

1   **Q.    How has the period of abnormally low interest rates affected the valuations and**  
2       **dividend yields of utility shares?**

3    A.    The Federal Reserve’s accommodative monetary policy has caused investors to seek  
4       alternatives to the historically low interest rates available on Treasury bonds. A result of  
5       this search for higher yield is that the share prices for many common stocks, especially  
6       dividend-paying stocks such as utilities, have been driven higher while the dividend  
7       yields (which are computed by dividing the dividend payment by the stock price) have  
8       decreased to levels well below the historical average. As shown in Figure 3, over the  
9       period from 2009 through 2017, since the Federal Reserve intervened to stabilize  
10      financial markets and support the economic recovery after the Great Recession of 2008-  
11      09, Treasury bond yields and utility dividend yields declined. Specifically, Treasury bond  
12      yields declined by approximately 118 basis points, and utility dividend yields have  
13      decreased by about 179 basis points over this same period. However, both Treasury bond  
14      yields and dividend yields have increased since 2017. As of January 31, 2019, the yield  
15      on 30-year Treasury bonds were 3.04 percent and dividend yields had increased  
16      approximately 11 basis points from end-of-year 2017 level of 3.10 percent to 3.21  
17      percent. It is important to note that while there has been a slight increase, dividend yields  
18      are still below their historical average over the past decade.



**Figure 3: Dividend Yields for Electric and Natural Gas Utility Stocks**



Note: Figure includes 2018 data through January 31, 2019.

Source: Bloomberg Professional

**Q. How have higher stock valuations and lower dividend yields for utility companies affected the results of the DCF model?**

A. During periods of general economic and capital market stability, the DCF model may adequately reflect market conditions and investor expectations. However, in the current market environment, the DCF model results are distorted by the historically low level of interest rates and the higher valuation of utility stocks. Value Line recently commented on the high valuations of electric utilities:

Even after a pullback in late 2018, most stocks in the Electric Utility Industry are still priced expensively, in our view. Many of the equities are still trading within our 2021-2023 Target Price Range. The industry's average dividend yield is 3.5%, and some stocks have yields that aren't significantly higher than the median of all stocks under our coverage. For the 3- to 5-year period, the group's average total return potential is just 5%.<sup>11</sup>

<sup>11</sup> Value Line Investment Survey, Electric Utility (West) Industry, at 2217 (Jan. 25, 2019).

1 This is further supported by a recent Edward Jones report on the utility sector:

2 Utility valuations have come down as 10-year Treasury bond rates  
3 have climbed back over 3%. On a price-to-earnings basis, they do  
4 remain significantly above their historical average, but have declined  
5 to less unreasonable levels. We have seen utility valuations moving  
6 in line with interest rate movements, although there have been  
7 exceptions to this. Overall, however, we believe the low-interest rate  
8 environment has been the biggest factor in pushing utilities higher  
9 since many investors buy them for their dividend yield.

10 Utilities have declined from their all-time highs reached late in 2017,  
11 but are still trading significantly above their average price-to-  
12 earnings ratio over the past decade. The premium valuation  
13 continues to reflect not only the low interest rate environment, but  
14 also the stable and predominantly regulated earnings growth we  
15 foresee.<sup>12</sup>

16 As noted by Value Line and Edward Jones, over the last few years, utility stocks have  
17 experienced high valuations and low dividend yields; driven by investors moving into  
18 dividend paying stocks from bonds due to the low interest rates in the bond market,  
19 however, those dynamics are changing. Value Line and Edward Jones recognize that as  
20 interest rates increase, bonds become a substitute for utility stocks. As utility stock prices  
21 decline, the dividend yields will increase. This change in market conditions implies that  
22 the ROE calculated using historical market data in the DCF model will likely understate  
23 the forward-looking cost of equity.

24 **Q. How did the Standard & Poor's ("S&P") Utilities Index respond to the market**  
25 **conditions that existed following the Great Recession of 2008-2009?**

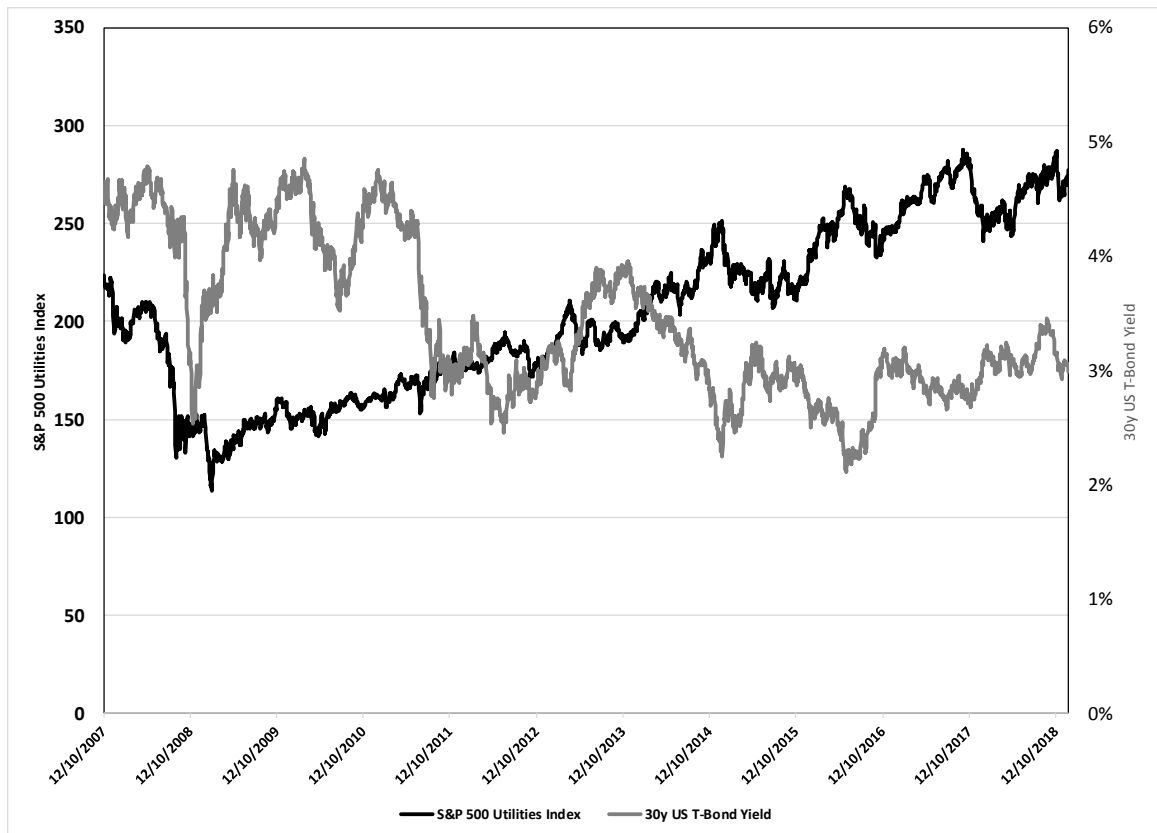
26 A. Figure 4, demonstrates market conditions from 2007-2019 as measured by the S&P  
27 Utilities index and the yield on 30-year Treasury bonds. As shown in Figure 4, the S&P

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<sup>12</sup> Andy Pusateri and Andy Smith, Edward Jones, Utilities Sector Outlook, at 2-3 (Jan. 16, 2019) (Reference to figure omitted).

1 Utilities index increased steadily from the beginning of 2009 through early November  
2 2017, as yields on 30-year Treasury bonds declined in response to accommodative  
3 federal monetary policy.

4 **Figure 4: S&P Utilities Index and U.S. Treasury Bond Yields (2007-2019)**



5 Source: Bloomberg Professional  
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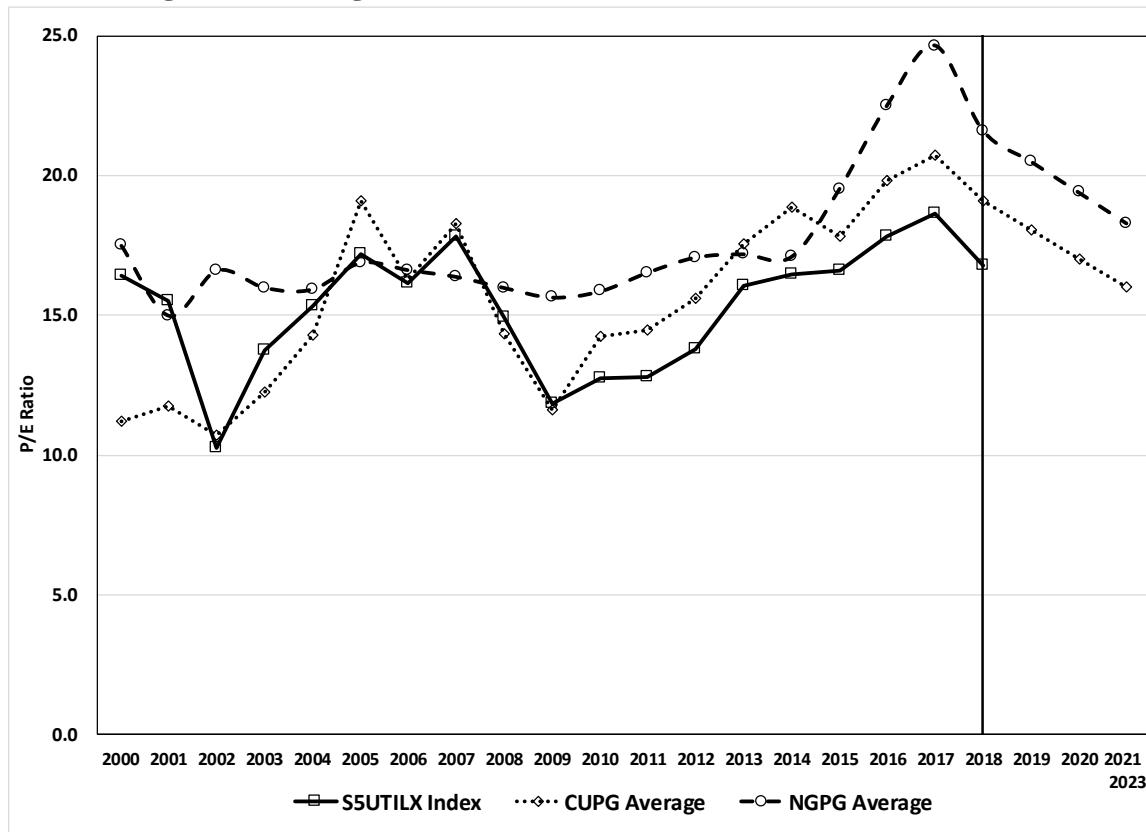
7 **Q. How do the valuations of public utilities compare to the historical average?**

8 A. Figure 5 summarizes the average historical and projected P/E ratios for the companies in  
9 the Combined Utility and Natural Gas Proxy Groups calculated using data from  
10 Bloomberg Professional and Value Line.<sup>13</sup> As shown in Figure 5, the average P/E ratios  
11 for the CUPG and the NGPG were higher in 2017 than at any other time in the last

<sup>13</sup> Selection of the companies in the Combined Utility and Natural Gas Proxy Groups is discussed in detail in Section VI of my Direct Testimony.

seventeen years and are significantly higher than the average projected P/E ratio for both proxy groups for the period from 2021-2023. In 2018 however, the average P/E ratio decreased slightly for the CUPG from the high in 2017 of 20.74 to 19.07 and for the NGPG from 24.64 in 2017 to 21.61. All else equal, if P/E ratios for the companies in the CUPG and NGPG continue to decline, as Value Line projects, the ROE results from the DCF model would be higher. Therefore, the DCF model using historical market data is likely understating the forward-looking cost of equity for the proxy group companies.

**Figure 5: Average Historical P/E Ratios for the CUPG and NGPG**



Note: Figure includes data through January 31, 2019.

Source: Bloomberg Professional

1 **Q. How do equity investors view the utilities sector based on these recent market**  
2 **conditions?**

3 A. Investment advisors have noted the underperformance of utility stocks as a result of  
4 current and future market conditions. Barron's recently published its seventh annual  
5 review of income-producing investments in which Barron's ranked eleven different  
6 sectors based on projected performance in 2019. The utility sector ranked ninth out of the  
7 eleven sectors with Barron's noting that:

8 Utilities, however, aren't cheap; they are valued at an average of 17  
9 times projected 2019 earnings, a premium to the S&P 500, at about  
10 14. That may make it hard for utilities to best the index in 2019,  
11 barring a market collapse. Earnings growth is running at a mid-  
12 single-digits yearly pace.<sup>14</sup>

13 Similarly, a recent report on the market outlook for 2019 from J.P. Morgan Asset  
14 Management noted:

15 As prospects for slower economic growth become clearer in the  
16 middle of next year, the Fed may signal it will pause. Such a signal,  
17 or a trade agreement with China, could lead multiples to expand,  
18 pushing the stock market higher and potentially adding years to this  
19 already old bull market. However, even if the bull market does end  
20 in the next few years, it is important to remember that late-cycle  
21 returns have typically been quite strong.

22 This leaves investors in a tough spot – should they focus on a  
23 fundamental story that is softening, or invest with an expectation that  
24 multiples will expand as the bull market runs its course? The best  
25 answer is probably a little bit of each. We are comfortable holding  
26 stocks as long as earnings growth is positive, but do not want to be  
27 over-exposed given an expectation for higher volatility. As such,  
28 higher-income sectors like financials and energy look more attractive  
29 than technology and consumer discretionary, and we would lump the  
30 new communication services sector in with the latter names, rather  
31 than the former. However, given our expectation of still some further

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<sup>14</sup> Andrew Bary, *Best Income Investments for 2019*, Barron's (Jan. 4, 2019), [www.barrons.com/articles/the-best-income-ideas-for-2019-51546632171](http://www.barrons.com/articles/the-best-income-ideas-for-2019-51546632171).

1 interest rate increases, it does not yet seem appropriate to fully rotate  
2 into defensive sectors like utilities and consumer staples. Rather, a  
3 focus on cyclical value should allow investors to optimize their  
4 upside/downside capture as this bull market continues to age.<sup>15</sup>

5 This view was further supported by UBS who noted that:

6 Our underweight views on consumer staples and utilities sectors  
7 reflect our preference for sectors that are more leveraged to  
8 continued favorable economic growth than these two defensive  
9 sectors. In addition, consumer staples are contending with sluggish  
10 organic growth. High dividend yields for the utilities sector makes it  
11 most negatively exposed to higher interest rates. Our industrials  
12 underweight is a bit of a hedge against a potential increase in trade  
13 frictions.<sup>16</sup>

14 **Q. Have regulators recently responded to the historically low dividend yields for utility**  
15 **companies and the corresponding effect on the DCF model?**

16 A. Yes. As I discuss in more detail later in my testimony, the Federal Energy Regulatory  
17 Commission (“FERC”) has determined that anomalous capital market conditions have  
18 caused the DCF model to understate equity costs for regulated utilities at this time.<sup>17</sup>

19 In addition, the Illinois Commerce Commission (“ICC”), the Pennsylvania Public Utility  
20 Commission (“PPUC”) and the Missouri Public Service Commission (“Missouri PSC”)  
21 have all considered this phenomenon in recent decisions. I discuss the response of these  
22 regulators to historically low dividend yields and the impact on the DCF model in detail  
23 later in my testimony.

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<sup>15</sup> J.P. Morgan Asset Management, The investment outlook for 2019: Late-cycle risks and opportunities, at 5 (Nov. 30, 2018).

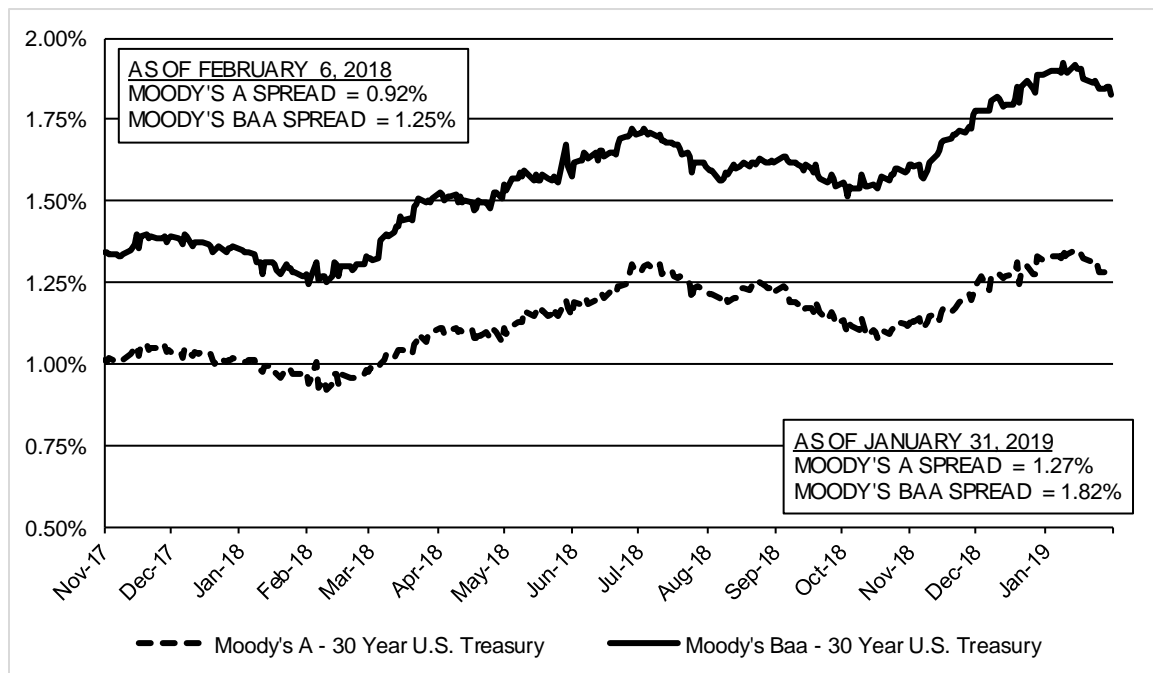
<sup>16</sup> UBS, “2019 outlook: Aging gracefully”, December 5, 2018, at 7.

<sup>17</sup> FERC Docket No. EL11-66-001, Opinion No. 531 (June 19, 2014), footnote 286. While Opinion No. 531 was recently remanded to FERC by the D.C. Circuit Court, that decision did not question the finding by FERC that capital market conditions were anomalous. Additionally, the methodologies that were relied on by FERC to establish the range have not been challenged. *See also* FERC Docket No. EL 11-66-001, et al., Order Directing Briefs, issued October 16, 2018, at para. 32. This Order develops a proposed methodology to address the issues that were remanded to FERC. The proposed methodology includes an equal weighting of the DCF, CAPM, Expected Earnings and Risk Premium models to better reflect investor behavior and capital market conditions.

1 **Q. Are there other indications that market conditions changed in 2018?**

2 A. Yes, there is evidence that investors' perception of utility risk has increased. As shown in  
3 Figure 6, credit spreads between Treasury bonds and utility bonds have increased since  
4 February 2018, which was the lowest level of credit spreads since before the Great  
5 Recession of 2008-2009. Since reaching a low point on February 6, 2018, the spread  
6 between Baa-rated utility debt and Treasury bonds has increased by 57 basis points, while  
7 the spread between A-rated utility debt and Treasury bonds has increased by 35 basis  
8 points.

9 **Figure 6: Credit Spreads – February 2018 – January 2019<sup>18</sup>**



10 Rising credit spreads indicate that investors are requiring a higher risk premium to  
11 compensate them for the additional credit risk associated with lower-rated utility debt.  
12 The higher required risk premium is the result of increased uncertainty in the market,  
13  
14

1 which has reduced investor confidence. As Bloomberg notes:

2 Corporate bond spreads have been widening since February, when  
3 they reached the tightest since before the financial crisis. Fewer  
4 foreign buyers, rate volatility and trade tensions are chipping away at  
5 investor confidence in the U.S. market, according to Thomas  
6 Murphy, a portfolio manager at Columbia Threadneedle Investments  
7 in Minneapolis.

8 “A lot of people pushed into our market because of QE overseas.  
9 They can now go back to their home markets. Hedging costs have  
10 gone up dramatically,” said Murphy, whose firm has about \$172  
11 billion of fixed-income assets under management. There are also  
12 “concerns about rate volatility and concerns on the curve shape  
13 changing,” he added.<sup>19</sup>

## 14 **B. The Current and Expected Interest Rate Environment**

### 15 **Q. What evidence is there that the interest rate environment is shifting?**

16 A. Based on stronger conditions in employment markets, a relatively stable inflation rate,  
17 steady economic growth, and increased household spending, the Federal Reserve raised  
18 the short-term borrowing rate by 25 basis points on four occasions in 2018. Since  
19 December 2015, the Federal Reserve has increased interest rates nine times, bringing the  
20 federal funds rate to the range of 2.25 percent to 2.50 percent. As the economy continues  
21 to expand, the Federal Reserve is expected to continue increasing short-term interest rates  
22 to sustain the desired balance between unemployment and consumer price inflation. The  
23 Federal Reserve has indicated that it is likely to raise short-term interest rates in 25 basis  
24 point increments twice in 2019.<sup>20</sup> In late January 2019, the Federal Reserve somewhat  
25 tempered its stance on monetary policy, with Chair Powell indicating that the central

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<sup>19</sup> Shelly Hagan, *Corporate Bond Spreads Jump to 16-Month High*, Bloomberg.com (June 22, 2018) [www.bloomberg.com/news/articles/2018-06-22/corporate-bond-spreads-jump-to-16-month-high-amid-growing-supply](http://www.bloomberg.com/news/articles/2018-06-22/corporate-bond-spreads-jump-to-16-month-high-amid-growing-supply).

<sup>20</sup> Economic Projections of Federal Reserve Board members and Federal Reserve Bank presidents under their individual assessments of projected appropriate monetary policy, December 2018, at 3.



1 bank would be “patient” and that the pace of future increases in short-term interest rates  
2 would be dependent on economic data.

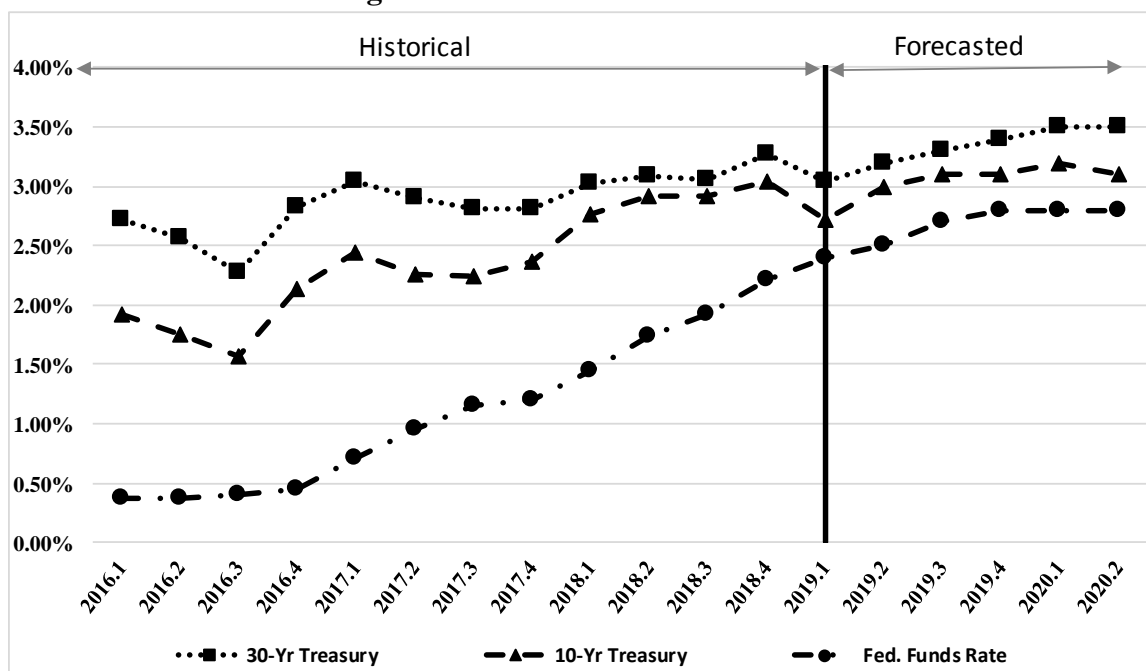
3 Furthermore, in October 2017, the FOMC started reducing the size of the Fed’s \$4.5  
4 trillion bond portfolio by no longer reinvesting the proceeds of the bonds it holds. In  
5 response to the Great Recession, the Fed pursued a policy known as “Quantitative  
6 Easing,” in which it systematically purchased mortgage-backed securities and long-term  
7 Treasury bonds to provide liquidity in financial markets and drive down yields on long-  
8 term government bonds. Although the Federal Reserve discontinued the Quantitative  
9 Easing program in October 2014, it continued to reinvest the proceeds from the bonds it  
10 holds. Under the new policy, the FOMC intends to gradually reduce the Federal  
11 Reserve’s securities holdings by \$10 billion per month initially, ramping up to \$50 billion  
12 per month by the end of the first twelve months.<sup>21</sup> The Federal Reserve’s announced  
13 unwinding plan provides additional support for investors’ view that long-term interest  
14 rates will increase, as the Federal Reserve gradually reverses the Quantitative Easing  
15 program that reduced those long-term rates.

16 Investors are expecting continued increases in interest rates on government bonds over  
17 the next few years, as shown in Figure 7.

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<sup>21</sup> Federal Reserve press release, Addendum to the Policy Normalization Principles and Plans, June 14, 2017, implemented at FOMC meeting, September 20, 2017.

Figure 7: Interest Rate Conditions<sup>22</sup>



For these reasons, the context for setting the authorized ROE for WEPCO and WG should not be the low interest rate environment of the last few years. Rather, the Commission should consider recent evidence that interest rates have been increasing, and that capital costs over the period that the Companies' 2020 rates will be in effect are expected to continue to increase as the Federal Reserve normalizes monetary policy and as the effects of the TCJA, which is discussed later in my testimony and in the Direct Testimony of Mr. Todd Shipman, flow through the economy.

**Q. What is the financial market's perspective on the future path of the federal funds rate?**

**A.** Following the FOMC December increase in interest rates, analysts are expecting additional increases in 2019. According to the February 2019 issue of Blue Chip

<sup>22</sup> Historical data from Bloomberg Professional. Forecast data from Blue Chip Financial Forecasts, Volume. 38, No. 2, at 2 (Feb. 1, 2019).

1 Financial Forecasts, in response to the question regarding the amount of the increase in  
2 short-term interest rates by the Federal Reserve in 2019, 31.70 percent of those surveyed  
3 expect the Federal Reserve to raise the federal funds rate by 25 basis points, 48.80  
4 percent expect an increase of 50 basis points, and 14.60 percent expect an increase of 75  
5 basis points.<sup>23</sup>

6 **Q. What has been the effect of the Federal Reserve's monetary policy on the yields of**  
7 **long-term government bonds?**

8 A. As shown in Figure 7, yields on long-term government bonds have increased since the  
9 Federal Reserve started to raise the federal funds rate in 2016. However, the increase in  
10 long-term government bond yields has not been as pronounced as the rise in short-term  
11 interest rates. This is due to a shift in the supply and demand of long-term government  
12 bonds that has occurred since 2009. For example, since the Great Recession of 2008-  
13 2009, federal debt has increased significantly which has resulted in an increase in the  
14 supply of Treasury bonds in the market. In general, an increase in supply should result in  
15 a decrease in the price of Treasury bonds and an increase in yield. However, long-term  
16 government bonds yields have not increased as fast as expected given the increase in  
17 supply. This is because the demand for Treasury bonds has also increased since 2009. As  
18 noted in a recent article published by the St. Louis Federal Reserve, the demand for  
19 government bonds increased for a number of reasons some of which included increased  
20 holdings foreign governments as countries in Europe and Asia faced their own economic  
21 uncertainty, and increased holdings from commercial banks due to new regulations that

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<sup>23</sup> Blue Chip Financial Forecasts, Volume 38, No. 2, at 14 (Feb. 1, 2019).

1 required banks to hold a larger portion of high-quality liquid assets.<sup>24</sup> This has resulted in  
2 a more gradual increase in the yields on long-term government bonds over the past few  
3 years.

4 **Q. Is the demand for long-term government bonds currently increasing?**

5 A. No, it is not. As noted in the Federal Reserve article:

6 Some evidence suggests that the growth in demand for Treasuries  
7 has already begun to soften. Returning to Figures 1 and 2, foreign  
8 holdings have remained more or less constant since 2014, largely  
9 because of declining holdings in Japan and China. Likewise,  
10 regulation and policy changes such as the Dodd-Frank Act and new  
11 rules for prime money market funds may have only transitory effects  
12 on the demand for Treasuries. For example, the pace of growth of  
13 the ratio of commercial bank Treasury security holdings to private  
14 loans has slowed since 2014 (see Figure 3), as has the growth of  
15 investment in government money market funds since 2017 (Figure  
16 4).<sup>25</sup>

17 Furthermore, another indicator of the demand for Treasury bonds is the bid to cover ratio  
18 which represents the dollar amount of bids received versus the dollar amount sold in a  
19 Treasury security auction. Therefore, a higher bid-to-cover ratio is indicative of an  
20 increase in the demand for government bonds. As shown in Figure 8, the bid-to-cover  
21 ratio for the 10-year U.S. Treasury bond is currently at its lowest point since 2009 which  
22 indicates that the demand for long-term government bonds has declined. The decline in  
23 demand is occurring at a time when the supply of Treasury bonds is expected to increase  
24 as the Federal Reserve continues its balance sheet unwind and the federal government  
25 issues bonds to offset the reduced tax revenue associated with the implementation of the  
26 TCJA. As a result, yields on long-term government bonds are expected to continue to

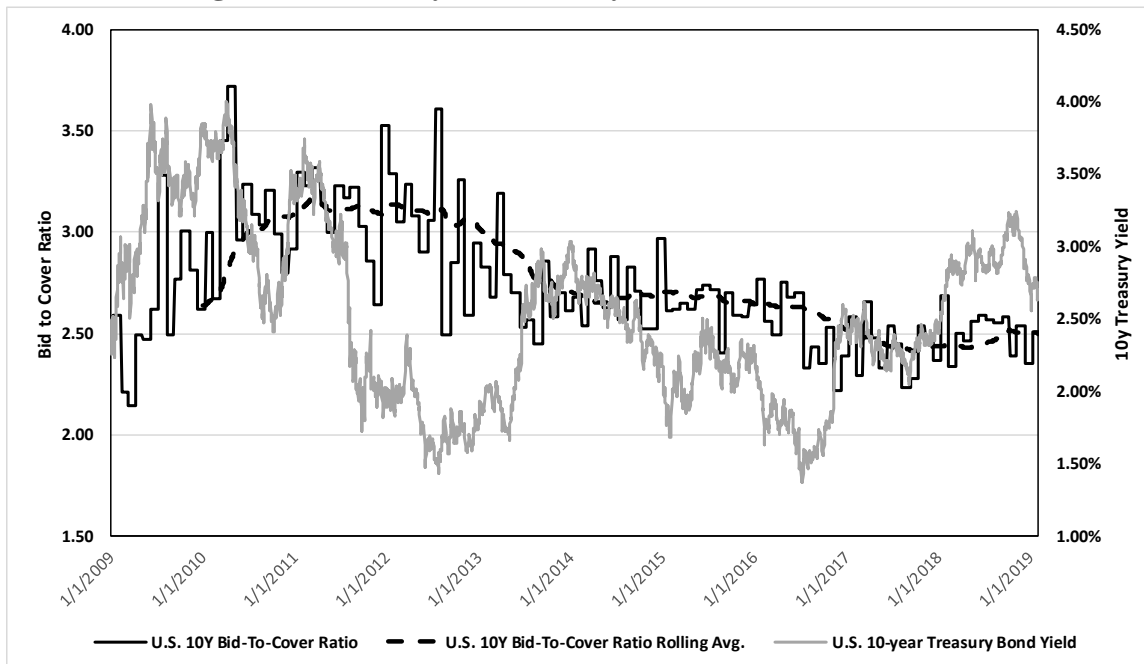
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<sup>24</sup> David Andolfatto and Andrew Spewak, Federal Reserve Bank of St. Louis, *On the Supply of, and Demand for, U.S. Treasury Debt*, Economic Synopses, No. 5, 2018. <https://doi.org/10.20955/es.2018.5>.

<sup>25</sup> *Id.*

1 increase over the near-term which is consistent with investors' expectations shown in  
2 Figure 7.

3 **Figure 8 : U.S. 10-year Treasury Bond Bid-to-Cover-Ratio**



4  
5  
6 **Q. What effect do rising interest rates have on the cost of equity?**

7 A. As interest rates continue to increase, the cost of equity for the proxy companies using the  
8 DCF model is likely to underestimate investors' required returns because the proxy group  
9 average dividend yield reflects the increase in stock prices that resulted from substantially  
10 lower interest rates. Rising interest rates support the selection of a return toward the  
11 upper end of a reasonable range of ROE estimates resulting from the DCF analysis.  
12 Alternatively, my CAPM and Bond Yield Plus Risk Premium analyses include estimated  
13 returns based on near-term projected interest rates, reflecting investors' expectations of  
14 market conditions over the period that the rates that are determined in this case will be  
15 set.

1       **C. Effect of Tax Reform on the ROE and Capital Structure**

2       **Q.     Are there other factors that should be considered in determining the cost of equity**  
3       **for WEPCO and WG?**

4       A.     Yes. The effect of the TCJA should also be considered in the determination of the cost of  
5       equity. The credit rating agencies have commented on the effect of the TCJA on  
6       regulated utilities. In summary, the TCJA is expected to reduce utility revenues due to the  
7       lower federal income taxes and the requirement to return excess accumulated deferred  
8       income taxes (“ADIT”) to customers. This change in revenue is expected to reduce Funds  
9       From Operations (“FFO”) metrics across the sector, and absent regulatory mitigation  
10      strategies, is expected to lead to weaker credit metrics and negative ratings actions for  
11      some utilities.<sup>26</sup>

12      **Q.     Have credit or equity analysts commented on the effect of the TCJA on utilities?**

13      A.     Yes. Moody’s Investors Services (“Moody’s”) indicated that while the TCJA was credit  
14      positive for many sectors, it has an overall negative credit impact on regulated operating  
15      companies of utilities and their holding companies due to the reduction in cash flow that  
16      results from the change in the federal tax rate and the loss of bonus depreciation.  
17      Moody’s noted that the rates that regulators allow utilities to charge customers is based  
18      on a cost-plus model, with tax expense being one of the pass-through items. Utilities will  
19      collect less taxes at the lower rate, reducing revenue. While the taxes are ultimately paid  
20      out as an expense, under the new law utilities lose the timing benefit of bonus  
21      depreciation, reducing cash that may have been carried over a number of years. The

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<sup>26</sup> Fitch, Special Report, What Investors Want to Know, *Tax Reform Impact on the U.S. Utilities, Power & Gas Sector* (Jan. 24, 2018).

1 lower tax rate combined with the loss of bonus depreciation will have a negative effect on  
2 utility cash flows and will ultimately negatively impact the utilities' ability to fund  
3 ongoing operations and capital improvement programs.

4 **Q. How has Moody's responded to the increased risk for utilities resulting from the**  
5 **TCJA?**

6 A. In January 2018, Moody's issued a report changing the rating outlook for several  
7 regulated utilities, including WEPCo's affiliate, WG, from Stable to Negative.<sup>27</sup> At that  
8 time, Moody's noted that the rating change affected companies with limited cushion in  
9 their ratings for deterioration in financial performance. In June 2018, Moody's issued a  
10 report in which the rating agency downgraded the outlook for the entire regulated utility  
11 industry from stable to negative for the first time ever. Moody's cites ongoing concerns  
12 about the negative effect of the TCJA on cash flows of regulated utilities. While noting  
13 that "[r]egulatory commissions and utility management teams are taking important first  
14 steps"<sup>28</sup> and that "we have seen some credit positive developments in some states in  
15 response to tax reform,"<sup>29</sup> Moody's concludes that "we believe that it will take longer  
16 than 12-18 months for the majority of the sector to show any material financial  
17 improvement from such efforts."<sup>30</sup>

18 **Q. Has Moody's changed its outlook for utilities in 2019?**

19 A. No. Consistent with the prior reports issued by Moody's in January and June of 2018,  
20 Moody's is maintaining its negative outlook for regulated utilities in 2019 as a result of

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<sup>27</sup> Moody's, Rating Action: *Moody's changes outlooks on 25 US regulated utilities primarily impacted by tax reform* (Jan. 19, 2018).

<sup>28</sup> Moody's, Regulated utilities – US: *2019 outlook shifts to negative due to weaker cash flows, continued high leverage*, at 3 (June 18, 2019).

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

1 continued concerns over the effect of the TCJA on cash flows as well as increasing  
2 debt.<sup>31</sup> Moody's notes that "[t]he combination of financial pressures is expected to keep  
3 the sector's ratio of funds from operations to debt down around 15% in the year ahead."<sup>32</sup>

4 **Q. What does it mean for Moody's to downgrade a credit outlook?**

5 A. A Moody's rating outlook is an opinion regarding the likely rating direction over what it  
6 refers to as "the medium term." A Stable outlook indicates a low likelihood of a rating  
7 change in the medium term. A Negative outlook indicates a higher likelihood of a rating  
8 change over the medium term. While Moody's indicates that the time period for changing  
9 a rating subsequent to a change in the outlook from Stable will vary, on average Moody's  
10 indicates that a rating change will follow within a year of a change in outlook.<sup>33</sup>

11 **Q. Have the Companies experienced a downgrade related to cash flow metrics resulting**  
12 **from tax reform?**

13 A No, although, as noted above, Moody's revised the outlook for WG from Stable to  
14 Negative which usually indicates a greater possibility of a ratings change over the near-  
15 term. Additionally, the parent company of WEPCO and WG, WEC, was recently  
16 downgraded by Moody's to Baa1 from A3 due to these concerns. Moody's indicated that  
17 "[t]he downgrade of WEC, WECC, and the Integrys entities reflects our expectation that  
18 the negative cash flow impact of tax reform, along with incremental debt to fund capital  
19 expenditures, will cause a deterioration in consolidated metrics".<sup>34</sup> While Moody's  
20 downgraded the credit rating for WEC, Moody's did cite to the recent decision from the

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<sup>31</sup> Moody's Investors Service, Research Announcement: Moody's: US regulated utilities sector outlook for 2019 remains negative, November 8, 2018.

<sup>32</sup> *Ibid.*

<sup>33</sup> Moody's Investors Service, Rating Symbols and Definitions, July 2017, at 27.

<sup>34</sup> Moody's, *Rating Action: Moody's downgrades WEC Energy, Wisconsin Energy Capital and Integrys to Baa1 from A3; stable outlook* (July 12, 2018).



1 Commission regarding the treatment of the impacts from the TCJA for the electric  
2 operations of both WEPCO and Wisconsin Public Service Corporation (“WPSC”). In the  
3 decision, the Commission allowed WEPCO and WPSC to use a portion of the refunds  
4 that were due to customers to reduce certain existing deferred balances (i.e., the  
5 transmission escrow account for transmission expenses)<sup>35</sup> which Moody’s viewed as  
6 potentially offsetting some of the impact on cash flows of the TCJA. However, Moody’s  
7 noted that the rest of WEC’s subsidiaries including WG will experience a reduction in  
8 cash flow as a result of the TCJA.<sup>36</sup>

9 **Q. Are you aware of any other utilities that have been downgraded as a result of the**  
10 **effect of the TCJA?**

11 A. Yes. Figure 9 contains a list of additional utilities that have been downgraded as a result  
12 of tax reform.

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<sup>35</sup> Order, PSCW Docket No. 5-AF-101, at 13.

<sup>36</sup> Moody’s, *Rating Action: Moody’s downgrades WEC Energy, Wisconsin Energy Capital and Integrys to Baal from A3; stable outlook* (July 12, 2018).

**Figure 9: Credit Rating Downgrades Resulting from TCJA**

Utility	Rating Agency	Credit Rating before TCJA	Credit Rating after TCJA	Downgrade Date
Brooklyn Union Gas Company	Moody's	A2	A3	2/22/2019
Avista Corp.	Moody's	Baa1	Baa2	12/30/2018
Consolidated Edison Company of New York	Moody's	A2	A3	10/30/2018
Consolidated Edison, Inc.	Moody's	A3	Baa1	10/30/2018
Orange and Rockland Utilities	Moody's	A3	Baa1	10/30/2018
Southwestern Public Service Company	Moody's	Baa1	Baa2	10/19/2018
Dominion Energy Gas Holdings	Moody's	A2	A3	9/20/2018
Piedmont Natural Gas Company, Inc.	Moody's	A2	A3	8/1/2018
OGE Energy Corp.	Moody's	A3	Baa1	7/5/2018
Oklahoma Gas & Electric Company	Moody's	A1	A2	7/5/2018

**Q. Have other rating agencies commented on the effect of the TCJA on ratings?**

**A.** Yes. S&P and Fitch Ratings ("Fitch") have also commented on the implications of the TCJA on utilities. S&P published a report on January 24, 2018 entitled "U.S. Tax Reform: For Utilities' Credit Quality, Challenges Abound" in which S&P concludes:

The impact of tax reform on utilities is likely to be negative to varying degrees depending on a company's tax position going into 2018, how its regulators react, and how the company reacts in return. It is negative for credit quality because the combination of a lower tax rate and the loss of stimulus provisions related to bonus depreciation or full expensing of capital spending will create headwinds in operating cash-flow generation capabilities as customer rates are lowered in response to the new tax code. The impact could be sharpened or softened by regulators depending on how much they want to lower utility rates immediately instead of using some of the lower revenue requirement from tax reform to allow the utility to retain the cash for infrastructure investment or other expenses. Regulators must also recognize that tax reform is a strain on utility credit quality, and we expect companies to request stronger capital structures and other means to offset some of the negative impact.

Finally, if the regulatory response does not adequately compensate for the lower cash flows, we will look to the issuers, especially at the holding company level, to take steps to protect credit metrics if

1 necessary. Some deterioration in the ability to deduct interest  
2 expense could occur at the parent, making debt there relatively more  
3 expensive. More equity may make sense and be necessary to protect  
4 ratings if financial metrics are already under pressure and regulators  
5 are aggressive in lowering customer rates. It will probably take the  
6 remainder of this year to fully assess the financial impact on each  
7 issuer from the change in tax liabilities, the regulatory response, and  
8 the company's ultimate response. We have already witnessed  
9 differing responses. We revised our outlook to negative on PNM  
10 Resources Inc. and its subsidiaries on Jan. 16 after a Public Service  
11 Co. of New Mexico rate case decision incorporated tax savings with  
12 no offsetting measures taken to alleviate the weaker cash flows. It  
13 remains to be seen whether PNM will eventually do so, especially as  
14 it is facing other regulatory headwinds. On the other hand,  
15 FirstEnergy Corp. issued \$1.62 billion of mandatory convertible  
16 stock and \$850 million of common equity on Jan. 22 and explicitly  
17 referenced the need to support its credit metrics in the face of the  
18 new tax code in announcing the move. That is exactly the kind of  
19 proactive financial management that we will be looking for to fortify  
20 credit quality and promote ratings stability.<sup>37</sup>

21 In S&P's 2019 trends report, the rating agency notes that the utility industry's financial  
22 measures weakened in 2018 and attributed that to tax reform, capital spending and  
23 negative load growth. In addition, S&P expects that weaker credit metrics will continue  
24 into 2019 for those utilities operating with minimal financial cushion. S&P further  
25 expects that these utilities will look to offset the revenue reductions from tax reform with  
26 equity issuances. The rating agency reported that in 2018 regulated utilities issued nearly  
27 \$35 billion in equity, which is more than twice the equity issuances in 2016 and 2017.<sup>38</sup>  
28 Finally, Fitch recognized the implications of tax reform but indicated that any ratings  
29 actions will be guided by the response of regulators and the management of the utilities.  
30 Fitch notes that the solution will depend on the ability of utility management to manage  
31 the cash flow implications of the TCJA. Fitch offers several solutions to provide rate

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<sup>37</sup> S&P, *U.S. Tax Reform: For Utilities' Credit Quality, Challenges Abound* (Jan. 24, 2018).  
<sup>38</sup> S&P, *Industry Top Trends 2019, North America Regulated Utilities* (Nov. 8, 2018).

1 stability and to moderate changes to cash flow in the near term, including increasing the  
2 authorized ROE and/or equity ratio as measures that can be implemented.<sup>39</sup>

3 **Q. What conclusions do you draw from your analysis of capital market conditions?**

4 A. The important conclusions resulting from capital market conditions are:

- 5 • The assumptions used in the ROE estimation models have been affected by the  
6 anomalous market conditions.
- 7 • Recent market conditions are not expected to persist as the Federal Reserve  
8 continues to normalize monetary policy. As a result, the recent historical market  
9 conditions are not reflective of the market conditions that will be present when the  
10 rates for WEPCO and WG will be in effect.
- 11 • It is important to consider the results of a variety of ROE estimation models,  
12 using forward-looking assumptions to estimate the cost of equity.
- 13 • Without adequate regulatory support, the TCJA will have a negative effect on  
14 utility cash flows, which increases investor risk expectations for utilities.

15 **VI. PROXY GROUP SELECTION**

16 **Q. Why have you used a group of proxy companies to estimate the cost of equity for**  
17 **WEPCO and WG?**

18 A. In this proceeding, we are focused on estimating the cost of equity for WEPCO and WG  
19 which are rate regulated subsidiaries of WEC. Since the cost of equity is a market-based  
20 concept and given that Companies are not themselves publicly traded entities, it is  
21 necessary to establish a group of companies that is both publicly traded and comparable  
22 to the Companies in certain fundamental business and financial respects to serve as their

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<sup>39</sup> Fitch, Special Report, *What Investors Want to Know, Tax Reform Impact on the U.S. Utilities, Power & Gas Sector* (Jan. 24, 2018).

1 “proxies” in the ROE estimation process. The proxy companies used in my analyses all  
2 possess a set of operating and risk characteristics that are substantially comparable to  
3 WEPCO and WG, and thus provide a reasonable basis to derive and estimate the  
4 appropriate ROE for WEPCO and WG.

5 **Q. Please provide a brief profile of WEPCO.**

6 A. WEPCO provides electric generation, transmission, and distribution services to  
7 approximately 1,123,000 customers<sup>40</sup> located in southeastern Wisconsin (including the  
8 metropolitan Milwaukee area), east central Wisconsin, northern Wisconsin, and in  
9 Michigan’s Upper Peninsula. WEPCO expects under normal weather conditions that  
10 retail electric sales volumes and associated peak demand will be flat or grow slightly over  
11 the next five years.<sup>41</sup> WEPCO self-generates approximately 71 percent of its electricity  
12 sales, and roughly 46 percent of its energy supply is produced with its own coal-fired  
13 generation.<sup>42</sup> WEPCO also provides natural gas distribution services to more than  
14 484,000 customers in Wisconsin.<sup>43</sup> WEPCO’s current long-term issuer ratings are as  
15 follows: (1) Moody’s-A2 (outlook stable); and (2) S&P A- (outlook stable).<sup>44</sup>

16 **Q. Please provide a brief profile of WG.**

17 A. WG provides natural gas distribution services to approximately 627,000 customers<sup>45</sup>  
18 located in central and western Wisconsin. Residential customers comprise 91 percent of  
19 total customers and 61 percent of total revenues, whereas commercial and industrial  
20 customers make up 9 percent of total customers and 31 percent of total revenues, with the

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<sup>40</sup> PSCW 2017 Annual Report for Wisconsin Electric Power Company, at page E-2.

<sup>41</sup> WEC Energy Group, SEC Form 10-K for the fiscal year ended December 31, 2017, at 5.

<sup>42</sup> *Id.* at 7.

<sup>43</sup> PSCW 2017 Annual Report for Wisconsin Electric Power Company, at page G-3.

<sup>44</sup> SNL Financial, February 5, 2019.

<sup>45</sup> PSCW 2017 Annual Report for Wisconsin Gas, at page G-3.

1 remaining revenues derived by a relatively small number of transportation customers.<sup>46</sup>

2 At the end of 2017, WG had approximately 70 million feet of gas mains, of which 35  
3 percent were made of steel.<sup>47</sup> WG's current long-term issuer ratings are as follows: (1)  
4 Moody's-A2 (outlook negative); and (2) S&P A (outlook stable).<sup>48</sup>

5 **Q. How did you select the companies included in your proxy groups?**

6 A. I established two proxy groups; a combination gas and electric utility proxy group to  
7 establish the appropriate ROE for WEPCO and a natural gas proxy group to establish the  
8 ROE for WG. For the CUPG, I began with the group of 39 companies that Value Line  
9 classifies as Electric Utilities and applied the following screening criteria to select  
10 companies that:

- 11 • pay consistent quarterly cash dividends, because companies that do not cannot be
- 12 analyzed using the Constant Growth DCF model;
- 13 • have investment grade long-term issuer ratings from S&P and/or Moody's;
- 14 • are covered by at least two utility industry analysts;
- 15 • have positive long-term earnings growth forecasts from at least two utility
- 16 industry equity analysts;
- 17 • own regulated generation assets that are in rate base;
- 18 • derive more than 70.00 percent of their total operating income from regulated
- 19 operations;
- 20 • derive more than 50.00 percent of their total regulated operating income from
- 21 regulated electric operations;

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<sup>46</sup>

*Id.*

<sup>47</sup>

*Id.*, at G-20.

<sup>48</sup>

SNL Financial, December 17, 2018.

- derive more than 10.00 percent of regulated operating income from gas distribution operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

**Q. Did you include WEC in your analysis?**

A. No. It is my practice to exclude the subject company, or its parent holding company, from the proxy group to avoid circular logic that otherwise would occur.

**Q. What is the composition of your CUPG?**

A. The screening criteria discussed above is shown in Ex.-WEPCO WG-Bulkley-3 and resulted in a proxy group consisting of the companies shown in Figure 10 below.

**Figure 10: CUPG Proxy Group**

<u>Company</u>	<u>Ticker</u>
Ameren Corporation	AEE
Black Hills Corporation	BKH
CMS Energy Corporation	CMS
DTE Energy Company	DTE
NorthWestern Corporation	NWE
Sempra Energy	SRE
Xcel Energy Inc.	XEL

**Q. How did you establish the NGPG?**

A. I began with the group of 10 domestic U.S. utilities that Value Line classifies as Natural Gas Distribution Utilities, and I applied similar screens used to establish the CUPG. The screening criteria that were applied are:

- pay consistent quarterly cash dividends, because companies that do not cannot be analyzed using the Constant Growth DCF model;
- have investment grade long-term issuer ratings from S&P and/or Moody's;
- are covered by at least two utility industry analysts;
- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;
- derive more than 70.00 percent of their total operating income from regulated operations;
- derive more than 60.00 percent of regulated operating income from gas distribution operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

**Q. Did you eliminate any other companies that otherwise met your NGPG screening criteria?**

A. Yes. On September 13, 2018, Columbia Gas of Massachusetts, a wholly-owned subsidiary of NiSource Inc. ("NiSource") experienced a significant event as a result of over pressured lines on their system. The incident resulted in immediate financial ramifications for NiSource. In fact, NiSource's stock price fell approximately 12.00 percent immediately following the incident. Given the impact the incident had on the stock price of NiSource, and the potential effect on the company's financial performance, it is appropriate to exclude NiSource from my NGPG.



1 **Q. What is the composition of your NGPG?**

2 A. The screening criteria discussed above is shown in Ex.-WEPCO WG-Bulkley-4, and  
3 resulted in a proxy group consisting of the companies shown in Figure 11 below:

4 **Figure 11: NGPG Proxy Group**

<u>Company</u>	<u>Ticker</u>
Atmos Energy Corporation	ATO
New Jersey Resources Corporation	NJR
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
South Jersey Industries, Inc.	SJI
Southwest Gas Corporation	SWX
Spire, Inc.	SR

5  
6 **VII. COST OF EQUITY ESTIMATION**

7 **Q. Please briefly discuss the ROE in the context of the regulated rate of return.**

8 A. The overall rate of return for a regulated utility is based on its weighted average cost of  
9 capital, in which the cost rates of the individual sources of capital are weighted by their  
10 respective book values. While the costs of debt and preferred stock can be directly  
11 observed, the cost of equity is market-based and, therefore, must be estimated based on  
12 observable market data.

13 **Q. How is the required ROE determined?**

14 A. The required ROE is estimated by using one or more analytical techniques that rely on  
15 market-based data to quantify investor expectations regarding required equity returns,  
16 adjusted for certain incremental costs and risks. Informed judgment is then applied to  
17 determine where the company's cost of equity falls within the range of results. The key  
18 consideration in determining the cost of equity is to ensure that the methodologies

employed reasonably reflect investors' views of the financial markets in general, as well as the subject company (in the context of the proxy group), in particular.

**Q. What methods did you use to determine WEPCO's and WG's ROE?**

A. I considered the results of the Constant Growth DCF model, the CAPM model, and the Bond Yield Plus Risk Premium methodology. As discussed in more detail below, a reasonable ROE estimate appropriately considers alternative methodologies and the reasonableness of their individual and collective results.

#### **A. Importance of Multiple Analytical Approaches**

**Q. Why is it important to use more than one analytical approach?**

A. Because the cost of equity is not directly observable, it must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the cost of equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. Several models have been developed to estimate the cost of equity, and I use multiple approaches to estimate the cost of equity. As a practical matter, however, all of the models available for estimating the cost of equity are subject to limiting assumptions or other methodological constraints. Consequently, many well-regarded finance texts recommend using multiple approaches when estimating the cost of equity. For example, Copeland, Koller, and Murrin<sup>49</sup> suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham and Gapenski<sup>50</sup> recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches.

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<sup>49</sup> Tom Copeland, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, at 214 (New York: McKinsey & Company, Inc., 3rd Ed., 2000).

<sup>50</sup> Eugene Brigham, Louis Gapenski, *Financial Management: Theory and Practice*, at 341 (Orlando: Dryden Press, 7th Ed., 1994).

1 **Q. Is it important given the current market conditions to use more than one analytical**  
2 **approach?**

3 A. Yes. As discussed in Section V above, the U.S. economy is beginning to emerge from an  
4 unprecedented period of low interest rates. Low interest rates, and the effects of the  
5 investor “flight to quality” can be seen in high utility share valuations, relative to  
6 historical levels and relative to the broader market. Higher utility stock valuations  
7 produce lower dividend yields and result in lower cost of equity estimates from a DCF  
8 analysis. Low interest rates also impact the CAPM in two ways: (1) the risk-free rate is  
9 lower, and (2) because the market risk premium is a function of interest rates, (i.e., it is  
10 the return on the broad stock market less the risk-free interest rate), the risk premium  
11 should move higher when interest rates are lower. Therefore, it is important to use  
12 multiple analytical approaches to moderate the impact that the current low interest rate  
13 environment is having on the ROE estimates for the proxy group and, where possible,  
14 consider using projected market data in the models to estimate the return for the forward-  
15 looking period.

16 **Q. Are you aware of any regulatory commissions who have recognized that the current**  
17 **anomalous conditions in capital markets are causing ROE recommendations based**  
18 **on DCF models to be unreasonable?**

19 A. Yes, several regulatory commissions have addressed the effect of capital market  
20 conditions on the DCF model, including FERC, the ICC, the PPUC and the Missouri  
21 PSC.

1   **Q.     Please summarize how FERC has responded to the effect of market conditions on**  
2       **the DCF.**

3   A.     Understanding the important role that dividend yields play in the DCF model, FERC  
4       determined that anomalous capital market conditions have caused the DCF model to  
5       understate equity costs for regulated utilities. In Opinion No. 531, issued in June 2014,  
6       FERC noted:

7           There is ‘model risk’ associated with the excessive reliance or  
8           mechanical application of a model when the surrounding conditions  
9           are outside of the normal range. ‘Model risk’ is the risk that a  
10          theoretical model that is used to value real world transactions fails to  
11          predict or represent the real phenomenon that is being modeled.<sup>51</sup>

12       FERC also noted that then-current low interest rates and bond yields resulted in  
13       anomalous market conditions, justifying a movement away from the midpoint of the DCF  
14       analysis. In that case, FERC relied on the CAPM and other risk premium methodologies  
15       to inform its judgment to set the return above the midpoint of the DCF results.  
16       In Opinion No. 551, issued in September 2016, FERC also found anomalous market  
17       conditions prevalent, and again concluded that it was necessary to rely on ROE  
18       estimation methodologies other than the DCF model to set the appropriate ROE:

19           Though the Commission noted certain economic conditions in  
20           Opinion No. 531, the principle argument was based on low interest  
21           rates and bond yields, conditions that persisted throughout the study  
22           period. Consequently, we find that *capital market conditions are still*  
23           *anomalous* as described above...<sup>52</sup>

24           \*\*\*\*\*

25           Because the evidence in this proceeding indicates that *capital*  
26           *markets continue to reflect the type of unusual conditions that the*

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<sup>51</sup> FERC Docket No. EL11-66-001, Opinion No. 531, at fn 286.

<sup>52</sup> FERC Docket No. EL14-12-002, Opinion No. 551, at para. 121 (emphasis added).

1           Commission identified in Opinion No. 531, we remain concerned  
2           that a mechanical application of the DCF methodology would result  
3           in a return inconsistent with *Hope* and *Bluefield*.<sup>53</sup>

4           \*\*\*\*\*

5           As the Commission found in Opinion No. 531, under these  
6           circumstances, we have less confidence that the midpoint of the zone  
7           of reasonableness in this proceeding accurately reflects the equity  
8           returns necessary to meet the *Hope* and *Bluefield* capital attraction  
9           standards. We therefore find it necessary and reasonable to consider  
10          additional record evidence, including evidence of alternative  
11          methodologies...<sup>54</sup>

12          Finally, in October 2018, FERC issued an Order indicating its plan to establish ROEs  
13          based on an equal weighting of the results of four financial models: the DCF, CAPM,  
14          Expected Earnings and Risk Premium. FERC explains its reasons for moving away from  
15          sole reliance on the DCF model as follows:

16               Our decision to rely on multiple methodologies in these four  
17               complaint proceedings is based on our conclusion that *the DCF*  
18               *methodology may no longer singularly reflect how investors make*  
19               *their decisions*. We believe that, since we adopted the DCF  
20               methodology as our sole method for determining utility ROEs in the  
21               1980s, investors have increasingly used a diverse set of data sources  
22               and models to inform their investment decisions. Investors appear to  
23               base their decisions on numerous data points and models, including  
24               the DCF, CAPM, Risk Premium, and Expected Earnings  
25               methodologies. As demonstrated in Figure 2 below, which shows the  
26               ROE results from the four models over the four test periods at issue  
27               in this proceeding, these models do not correlate such that the DCF  
28               methodology captures the other methodologies. In fact, in some  
29               instances, their cost of equity estimates may move in opposite  
30               directions over time. Although we recognize the greater  
31               administrative burden on parties and the Commission to evaluate  
32               multiple models, we believe that *the DCF methodology alone no*  
33               *longer captures how investors view utility returns because investors*  
34               *do not rely on the DCF alone and the other methods used by*  
35               *investors do not necessarily produce the same results as the DCF.*

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<sup>53</sup>           *Id.*, at para. 122 (emphasis added).

<sup>54</sup>           *Id.*

1                   Consequently, it is appropriate for our analysis to consider a  
2                   combination of the DCF, CAPM, Risk Premium, and Expected  
3                   Earnings approaches.<sup>55</sup>

4   **Q.     How have the PPUC, the ICC and the Missouri PSC addressed the effect of market**  
5           **conditions on the DCF?**

6   A.     In a 2012 decision for PPL Electric Utilities, the PPUC recognized that market conditions  
7           were causing the DCF model to produce results that were much lower than other models  
8           such as the CAPM and Bond Yield Plus Risk Premium. The PPUC's Order explained:

9                   Sole reliance on one methodology without checking the validity of  
10                  the results of that methodology with other cost of equity analyses  
11                  does not always lend itself to responsible ratemaking. We conclude  
12                  that methodologies other than the DCF can be used as a check upon  
13                  the reasonableness of the DCF derived equity return calculation.<sup>56</sup>

14          The PPUC ultimately concluded:

15                  As such, where evidence based on the CAPM and RP methods  
16                  suggest that the DCF-only results may understate the utility's current  
17                  cost of equity capital, we will give consideration to those other  
18                  methods, to some degree, in determining the appropriate range of  
19                  reasonableness for our equity return determination.<sup>57</sup>

20          In a recent ICC case, Staff relied on a DCF analysis that resulted in average returns for  
21          their proxy groups of 7.24 percent to 7.51 percent. The utility demonstrated that these  
22          results were far too low to be reasonable by comparing the results of Staff's models to  
23          recently authorized ROEs for regulated utilities and the return on the S&P 500.<sup>58</sup> The  
24          ICC agreed with the utility that Staff's proposed ROE of 8.04 percent was anomalous and

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<sup>55</sup> FERC Docket No. EL 11-66-001, et al., Order Directing Briefs, issued October 16, 2018, at para. 40 (emphases added) (Figure 2 was omitted).

<sup>56</sup> *PPL Electric Utilities*, PPUC No. R-2012-2290597, meeting held December 5, 2012, at 80.

<sup>57</sup> *Id.* at 81.

<sup>58</sup> Illinois-American Water Company Initial Brief, August 31, 2016, at 10, ICC Docket No. 16-0093.

1 that such a return was not competitive and would deter investment in Illinois.<sup>59</sup> In setting  
2 the return in that proceeding the ICC found it necessary to consider other factors beyond  
3 the outputs of the financial models, in particular whether or not the return is sufficient to  
4 attract capital, maintain financial integrity, and is commensurate with returns for  
5 companies of comparable risk, while balancing the interests of customers and  
6 shareholders.<sup>60</sup>

7 Finally, in February 2018, the Missouri PSC in a gas rate case cited the importance of  
8 considering multiple methodologies to estimate the cost of equity and the need for the  
9 authorized ROE to be consistent with returns in other jurisdictions and to reflect the  
10 growing economy and investor expectations for higher interest rates.

11 Based on the competent and substantial evidence in the record, on its  
12 analysis of the expert testimony offered by the parties, and on its  
13 balancing of the interests of the company's ratepayers and  
14 shareholders, as fully explained in its findings of fact and  
15 conclusions of law, the Commission finds that 9.8 percent is a fair  
16 and reasonable return on equity for Spire Missouri. That rate is  
17 nearly the midpoint of all the experts' recommendations and *is*  
18 *consistent with the national average, the growing economy, and the*  
19 *anticipated increasing interest rates.* The Commission finds that this  
20 rate of return will allow Spire Missouri to compete in the capital  
21 market for the funds needed to maintain its financial health.<sup>61</sup>

22 **Q. What are your conclusions about the results of the DCF and CAPM models?**

23 A. Recent market data used as the basis for the assumptions for both models have been  
24 affected by market conditions. As a result, relying exclusively on historical assumptions  
25 in these models, without considering whether these assumptions are consistent with

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<sup>59</sup> Illinois Staff's analysis and recommendation in that proceeding were based on its application of the multi-stage DCF model and the CAPM to a proxy group of water utilities.

<sup>60</sup> *Illinois-American Water Company*, ICC Docket No. 16-0093, 2016 WL 7325212 (2016), at 55.

<sup>61</sup> Report and Order, Issue Date February 21, 2018, at 34, Mo. PSC File No. GR-2017-0215 and File No. GR-2017-0216, PSC (Feb. 21, 2018) (emphasis added).

investors' future expectations, will underestimate the cost of equity that investors would require over the period that the rates in this case are to be in effect. Specifically, relying on the historical average of abnormally high stock prices will result in low dividend yields that are not expected to continue over the period that the new rates will be in effect. This, in turn, underestimates the ROE for the rate period.

The use of recent historical Treasury bond yields in the CAPM also tends to underestimate the projected cost of equity. Recent experience indicates that interest rates are increasing, and the market expects them to continue to increase. This expectation means that the expected cost of equity is higher than suggested by the CAPM using historical average yields. The use of projected yields on Treasury bonds results in CAPM estimates that are more reflective of the market conditions that investors expect during the period that WEPCO's and WG's rates will be in effect.

## **B. Constant Growth DCF Model**

**Q. Please describe the DCF approach.**

A. The DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its most general form, the DCF model is expressed as follows:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

Where  $P_0$  represents the current stock price,  $D_1 \dots D_\infty$  are all expected future dividends, and  $k$  is the discount rate, or required ROE. Equation [1] is a standard present value calculation that can be simplified and rearranged into the following form:



$$k = \frac{D_0(1+g)}{P_0} + g \quad [2]$$

Equation [2] is often referred to as the Constant Growth DCF model in which the first term is the expected dividend yield and the second term is the expected long-term growth rate.

**Q. What assumptions are required for the Constant Growth DCF model?**

A. The Constant Growth DCF model requires the following four assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions is violated, considered judgment and/or specific adjustments should be applied to the results.

**Q. What market data did you use to calculate the dividend yield in your Constant Growth DCF model?**

A. The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended January 31, 2019.

**Q. Why did you use 30-, 90-, and 180-day averaging periods?**

A. In my Constant Growth DCF model, I use an average of recent trading days to calculate the term  $P_0$  in the DCF model to ensure that the ROE is not skewed by anomalous events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long-term. However, the averaging periods that I use rely on historical data which is not consistent with the forward-looking expectation that interest rates will increase. Therefore, the

1 results of my Constant Growth DCF model using historical data will underestimate the  
2 forward-looking cost of equity. As a result, I place more weight on the mean to mean-  
3 high results produced by my Constant Growth DCF model.

4 **Q. Did you make any adjustments to the dividend yield to account for periodic growth**  
5 **in dividends?**

6 A. Yes, I did. Since utility companies tend to increase their quarterly dividends at different  
7 times throughout the year, it is reasonable to assume that dividend increases will be  
8 evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply  
9 one-half of the expected annual dividend growth rate for purposes of calculating the  
10 expected dividend yield component of the DCF model. This adjustment ensures that the  
11 expected first year dividend yield is, on average, representative of the coming twelve-  
12 month period, and does not overstate the aggregated dividends to be paid during that  
13 time.

14 **Q. Why is it important to select appropriate measures of long-term growth in applying**  
15 **the DCF model?**

16 A. In its Constant Growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth  
17 estimate in perpetuity. To reduce the long-term growth rate to a single measure, one must  
18 assume a constant payout ratio, and that earnings per share, dividends per share and book  
19 value per share all grow at the same constant rate. Over the long run, however, dividend  
20 growth can only be sustained by earnings growth. Therefore, it is important to  
21 incorporate a variety of sources of long-term earnings growth rates into the Constant  
22 Growth DCF model.

1 **Q. Which sources of long-term earnings growth rates did you use?**

2 A. My Constant Growth DCF model incorporates three sources of long-term earnings  
3 growth rates: (1) Zacks Investment Research; (2) Thomson First Call (provided by  
4 Yahoo!Finance); and (3) Value Line Investment Survey.

5 **C. DCF Model Results**

6 **Q. How did you calculate the range of results for the Constant Growth DCF Model?**

7 A. I calculated the low result for my DCF models using the minimum growth rate (*i.e.*, the  
8 lowest of the First Call, Zacks, and Value Line earnings growth rates) for each of the  
9 proxy group companies. Thus, the low result reflects the minimum DCF result for the  
10 proxy group. I used a similar approach to calculate the high results, using the highest  
11 growth rate for each proxy group company. The mean results were calculated using the  
12 average growth rates from all sources.

13 **Q. Have you excluded any of the Constant Growth DCF results for individual**  
14 **companies in your proxy group?**

15 A. Yes, I have. I eliminated any ROE estimate that is below the yield on the 30-year  
16 Treasury Bond plus a minimum equity risk premium. The lower boundary is based on a  
17 recent position established by the Minnesota Department of Commerce in Docket No.  
18 E017/GR-15-1033.<sup>62</sup> The lower bound of 7.00 percent was established by reviewing the  
19 equity risk premium for the proxy group as calculated by my CAPM analysis. As shown  
20 in Ex.-WEPCO WG-Bulkley-9, the market risk premium ranged from 10.95 percent to  
21 11.81 percent. Therefore, the implied equity risk premium for the proxy group is

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<sup>62</sup> In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota, Minn. PSC Docket No. E017/GR-15-1033 (August 16, 2016), at 11.

1 calculated as the market return times the proxy group average beta. For example, as  
2 shown in Ex.-WEPCO WG-Bulkley-9, the CUPG had a Value Line beta of 0.600 which  
3 would result in a market risk premium for the proxy group ranging from 6.57 percent to  
4 7.09 percent. However, a ROE estimate of 7.00 percent would result in an equity risk  
5 premium ranging from 3.10 percent to 3.97 percent which would result in an equity risk  
6 premium for the proxy group that is approximately 330 basis points less than the equity  
7 risk premium for the CUPG calculated using my CAPM analysis. Therefore, it is  
8 reasonable to conclude that a ROE of 7.00 percent would not sufficiently compensate  
9 investors for the additional risk of investing in utility stocks. As a result, I have excluded  
10 individual DCF estimates that are below 7.00 percent.

11 **Q. What were the results of your DCF analyses?**

12 A. Figure 12 and Figure 13 summarizes the results of my DCF analyses. As shown in Figure  
13 12 and Figure 13, for the CUPG, the median DCF results range from 9.83 percent to 9.94  
14 percent and the median high results are in the range of 10.46 percent to 10.57 percent  
15 while for the NGPG, the median DCF results range from 9.63 percent to 9.72 percent and  
16 the median high results are in the range of 12.12 percent to 12.17 percent. While I also  
17 summarize the median low DCF results, I do not believe that the low DCF results provide  
18 a reasonable spread over the expected yields on Treasury bonds to compensate investors  
19 for the incremental risk related to an equity investment.

**Figure 12: DCF Results for WEPCO**

	Median Low	Median	Median High
<b>CUPG Group</b>			
<b>Constant Growth DCF<sup>63</sup></b>			
30-Day Average	9.15%	9.86%	10.47%
90-Day Average	9.12%	9.83%	10.46%
180-Day Average	9.23%	9.94%	10.57%

**Figure 13: DCF Results for WG**

	Median Low	Median	Median High
<b>NGPG</b>			
<b>Constant Growth DCF<sup>64</sup></b>			
30-Day Average	8.24%	9.69%	12.16%
90-Day Average	8.58%	9.63%	12.12%
180-Day Average	8.26%	9.72%	12.17%

**Q. What are your conclusions about the results of the DCF models?**

A. As discussed previously, one primary assumption of the DCF models is a constant P/E ratio. That assumption is heavily influenced by the market price of utility stocks. Because current utility stock valuations are high and may not be sustainable, it is important to consider the results of the DCF models with caution. As I indicated previously, these valuations are due to the lower interest rate environment as investors seek higher returns. With the expectation of rising interest rates, such valuations are not expected to be sustained in the upcoming years. Since the low dividend yields may result in the DCF model understating investors' expected return, I have given primary weight to the median and high-end DCF results. My overall recommendation also relies on the results of other ROE estimation models.

<sup>63</sup> See Ex.-WEPCO WG-Bulkley-5.

<sup>64</sup> See Ex.-WEPCO WG-Bulkley-6.

## D. CAPM Analysis

**Q. Please briefly describe the CAPM.**

A. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or “systematic” risk of that security. This second component is the product of the market risk premium and the Beta coefficient, which measures the relative riskiness of the security being evaluated.

The CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

Where:

$K_e$  = the required market ROE;  
 $\beta$  = Beta coefficient of an individual security;  
 $r_f$  = the risk-free rate of return; and  
 $r_m$  = the required return on the market.

In this specification, the term  $(r_m - r_f)$  represents the market risk premium. According to the theory underlying the CAPM, since unsystematic risk can be diversified away, investors should only be concerned with systematic or non-diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

$$\beta = \frac{\text{Covariance}(r_e, r_m)}{\text{Variance}(r_m)} \quad [4]$$

The variance of the market return (i.e., Variance  $(r_m)$ ) is a measure of the uncertainty of the general market, and the covariance between the return on a specific security and the general market (i.e., Covariance  $(r_e, r_m)$ ) reflects the extent to which the return on that security will respond to a given change in the general market return. Thus, Beta

represents the risk of the security relative to the general market.

**Q. What risk-free rate did you use in your CAPM analysis?**

A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds (i.e., 3.03 percent);<sup>65</sup> (2) the average projected 30-year U.S. Treasury bond yield for Q2 2019 through Q2 2020 of 3.52 percent;<sup>66</sup> and (3) the average projected 30-year U.S. Treasury bond yield for 2020 through 2024 of 3.90 percent.<sup>67</sup>

**Q. Would you place more weight on one of these scenarios?**

A. Yes. Based on current market conditions, I place more weight on the results of the projected yields on the 30-year Treasury bonds. As discussed previously, the estimation of the cost of equity in this case should be forward looking since it is the return that investors would receive over the future rate period. Therefore, the inputs and assumptions used in the CAPM analysis should reflect the market's expectations for the period in which the rates will be effective. As discussed in Section V of my Direct Testimony, leading economists surveyed by Blue Chip are expecting an increase in long-term interest rates over the next five years. This is an important consideration for equity investors as they assess their return requirements. While I have included the results of a CAPM analysis which relies the current average risk-free rate, this analysis fails to take into consideration the effect of the market's expectations for interest rate increases on the cost of equity.

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<sup>65</sup> Bloomberg Professional, as of January 31, 2019.

<sup>66</sup> Blue Chip Financial Forecasts, Vol. 38, No. 2, February 1, 2019, at 2.

<sup>67</sup> Blue Chip Financial Forecasts, Vol. 37, No. 12, December 1, 2018, at 14.

1 **Q. What Beta coefficients did you use in your CAPM analysis?**

2 A. As shown on Ex.-WEPCO WG-Bulkley-7 and Ex.-WEPCO WG-Bulkley-8, I used the  
3 average Beta coefficients for the companies in the Combined Utility and Natural Gas  
4 Proxy Groups as reported by Value Line. Value Line's calculation is based on five years  
5 of weekly returns relative to the New York Stock Exchange Composite Index. My  
6 average Beta coefficient was 0.600 for the CUPG and 0.671 for the NGPG.

7 **Q. How did you estimate the market risk premium in the CAPM?**

8 A. I estimated the market risk premium based on the expected return on S&P 500 Index less  
9 the yield on the 30-year Treasury bond. I calculate the expected return on the S&P 500  
10 Index companies for which dividend yields and long-term earnings projections are  
11 available using the Constant Growth DCF model discussed earlier in my Direct  
12 Testimony. Based on an estimated market capitalization-weighted dividend yield of 2.08  
13 percent and a weighted long-term growth rate of 12.64 percent, the estimated required  
14 market return for the S&P 500 Index is 14.85 percent. As shown in Ex.-WEPCO WG-  
15 Bulkley-9, the implied market risk premium over the current 30-day average of the 30-  
16 year U.S. Treasury bond yield, and projected yields on the 30-year U.S. Treasury bond,  
17 range from 10.95 percent to 11.81 percent.

18 **Q. Have other regulators endorsed the use of a forward-looking market risk premium?**

19 A. Yes. In Opinion No. 531-B, FERC specifically endorsed a method that is similar to the  
20 method I have used to calculate the forward-looking market risk premium (i.e., applying



1 a Constant Growth DCF analysis to the S&P 500 and using the 30-year Treasury bond  
2 yields).<sup>68</sup>

3 In response to arguments against this methodology, FERC stated:

4 We are also unpersuaded that the growth rate projection in the  
5 NETOs' CAPM study was skewed by the NETOs' reliance on  
6 analysts' projections of non-utility companies' medium-term  
7 earnings growth, or that the study failed to consider that those  
8 analysts' estimates reflect unsustainable short-term stock repurchase  
9 programs and are not long-term projections. As explained above, the  
10 NETOs based their growth rate input on data from IBES, which the  
11 Commission has found to be a reliable source of such data. Thus, the  
12 time periods used for the growth rate projections in the NETOs'  
13 CAPM study are the time periods over which IBES forecasts  
14 earnings growth. Petitioners' arguments against the time period on  
15 which the NETOs' CAPM analysis is based are, in effect, arguments  
16 that IBES data are insufficient in a CAPM study.<sup>69</sup>

17 \*\*\*

18 While an individual company cannot be expected to sustain high  
19 short term growth rates in perpetuity, the same cannot be said for a  
20 stock index like the S&P 500 that is regularly updated to contain  
21 only companies with high market capitalization, and the record in  
22 this proceeding does not indicate that the growth rate of the S&P 500  
23 stock index is unsustainable.<sup>70</sup>

24 **Q. What are the results of your CAPM analyses?**

25 A. As shown in Figure 14 and Figure 15 (*see* also Ex.-WEPCO WG-Bulkley-9), my CAPM  
26 analyses produce a range of returns from 10.12 percent to 10.47 percent for WEPCO and  
27 10.97 percent to 11.25 percent for WG.

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<sup>68</sup> 150 FERC ¶ 61,165, at para. 109-111 (Mar. 3, 2015).

<sup>69</sup> *Id.*, at para. 112.

<sup>70</sup> *Id.*, at para. 113.

**Figure 14: CAPM Results for WEPCO**

	<b>CAPM Results</b>
Current Risk-Free Rate (3.03%)	10.12%
Q2 2019-Q2 2020 Projected Risk-Free Rate (3.52%)	10.32%
2020-2024 Projected Risk-Free Rate (3.90%)	10.47%
<b>Mean Result</b>	<b>10.30%</b>

**Figure 15: CAPM Results for WG**

	<b>CAPM Results</b>
Current Risk-Free Rate (3.03%)	10.97%
Q2 2019-Q2 2020 Projected Risk-Free Rate (3.52%)	11.13%
2020-2024 Projected Risk-Free Rate (3.90%)	11.25%
<b>Mean Result</b>	<b>11.11%</b>

**E. Bond Yield Plus Risk Premium Analysis**

**Q. Please describe the Bond Yield Plus Risk Premium approach.**

A. In general terms, this approach is based on the fundamental principle that equity investors bear the incremental risk associated with equity ownership and therefore require a premium over the return they would have earned as a bondholder. That is, since investments in equity have greater risk than investments in bonds, equity investors must be compensated to bear that risk.<sup>71</sup> Risk premium approaches, therefore, estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I used actual authorized returns for electric utility companies and natural gas utility companies as the historical measure of the cost of equity to determine the risk premium.

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<sup>71</sup> Roger A. Morin Ph.D., *New Regulatory Finance*, ~~Roger A. Morin Ph.D.~~, at 108 (Public Utility Reports, 2006).

1 **Q. Are there other considerations that should be addressed in conducting this analysis?**

2 A. Yes. It is important to recognize both academic literature and market evidence indicating  
3 that the equity risk premium (as used in this approach) is inversely related to the level of  
4 interest rates.<sup>72</sup> That is, as interest rates increase (decrease), the equity risk premium  
5 decreases (increases). Consequently, it is important to develop an analysis that: (1)  
6 reflects the inverse relationship between interest rates and the equity risk premium; and  
7 (2) relies on recent and expected market conditions. Such an analysis can be developed  
8 based on a regression of the risk premium as a function of U.S. Treasury bond yields. If  
9 we let authorized ROEs for utility companies serve as the measure of required equity  
10 returns and define the yield on the long-term U.S. Treasury bond as the relevant measure  
11 of interest rates, the risk premium is the difference between those two points.<sup>73</sup>

12 **Q. Is the Bond Yield Plus Risk Premium analysis relevant to investors?**

13 A. Yes. Investors are aware of ROE awards in other jurisdictions, and they consider those  
14 awards as a benchmark for a reasonable level of equity returns for utilities of comparable  
15 risk operating in other jurisdictions.<sup>74</sup> Since my Bond Yield Plus Risk Premium analysis  
16 is based on authorized ROEs for utility companies relative to corresponding Treasury  
17 yields, it provides relevant information to assess the return expectations of investors.

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<sup>72</sup> *Id.* at 123-125.

<sup>73</sup> See e.g., S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (Mar. 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. See also Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, Financial Management, at 66 (Spring 1986).

<sup>74</sup> See e.g., Moody's, *Rating Methodology: Regulated Electric and Gas Utilities* (June 23, 2017) for a discussion on how Moody's considers the overall regulatory framework in establishing credit ratings. See also S&P, *U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality—But Some More So Than Others* (June 25, 2018).

1 **Q. What did your Bond Yield Plus Risk Premium analysis reveal for your national**  
2 **survey of electric utilities?**

3 A. As shown in Figure 16 below, from 1992 through January 2019, there was a strong  
4 negative relationship between risk premia and interest rates. To estimate that relationship,  
5 I conducted a regression analysis using the following equation:

$$RP = a + b(T) \text{ [5]}$$

7 Where:

8 RP = Risk Premium (difference between allowed ROEs and the yield on 30-year

9 U.S. Treasury bonds)

10 a = intercept term

11 b = slope term

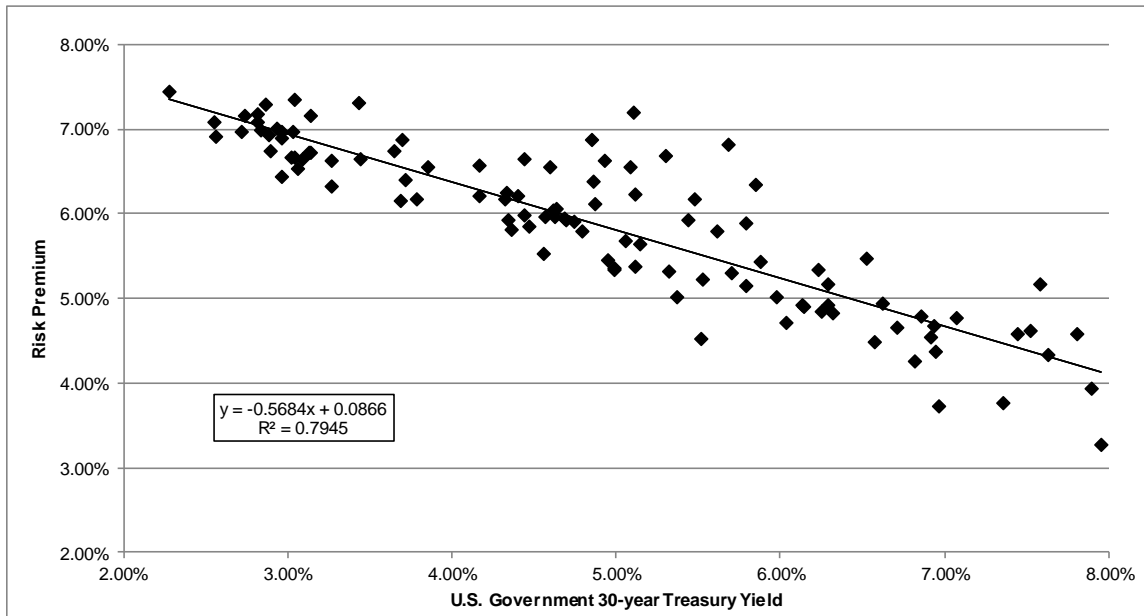
12 T = 30-year U.S. Treasury bond yield

13 Data regarding allowed ROEs were derived from 601 integrated electric utility rate cases  
14 from 1992 through January 2019 as reported by Regulatory Research Associates  
15 (“RRA”).<sup>75</sup> This equation’s coefficients were statistically significant at the 99.00 percent  
16 level.

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<sup>75</sup> This analysis began with a total of 1,136 cases and was screened to eliminate limited issue rider cases, transmission-only cases, distribution-only cases, and cases that were silent with respect to the authorized ROE. After applying those screening criteria, the analysis was based on data for 601 cases.

**Figure 16: Risk Premium Results - National Electric Utility Survey**



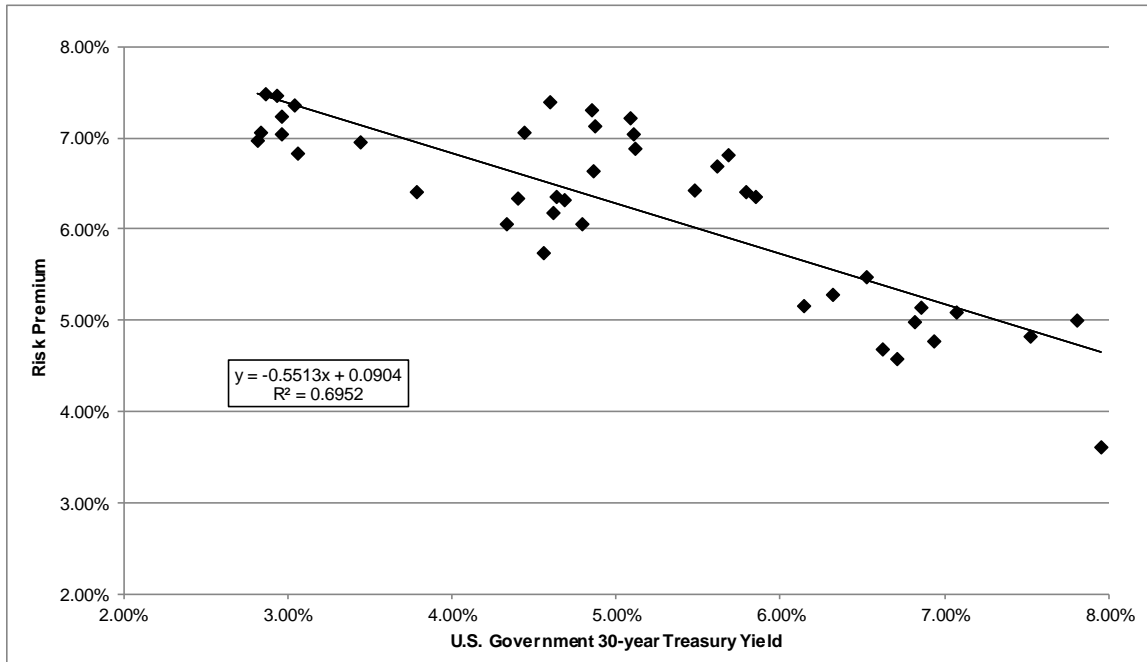
As shown on Ex.-WEPCO WG-Bulkley-10, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 3.03 percent), the risk premium would be 6.93 percent, resulting in an estimated ROE of 9.97 percent. Based on the near-term (Q2 2019 – Q2 2020) projections of the 30-year U.S. Treasury bond yield (i.e., 3.52 percent), the risk premium would be 6.66 percent, resulting in an estimated ROE of 10.18 percent. Based on longer-term (2020-2024) projections of the 30-year U.S. Treasury bond yield (i.e., 3.90 percent), the risk premium would be 6.44 percent, resulting in an estimated ROE of 10.34 percent. Because WEPCO primarily serves electric customers, I have used these results to best describe WEPCO's forward looking risk premium analysis.

**Q. Have you performed a jurisdictionally focused Bond Yield Plus Risk Premium analysis for electric utilities operating in the State of Wisconsin?**

**A.** Yes, I have. I conducted a similar analysis to that above using allowed ROEs derived solely from Wisconsin electric utility rate case decisions from 1992 through January

2019; 70 such cases were reported by RRA. This equation's coefficients were also statistically significant at the 99.0% confidence level.

**Figure 17: Risk Premium Results - Wisconsin Electric Utility Survey**



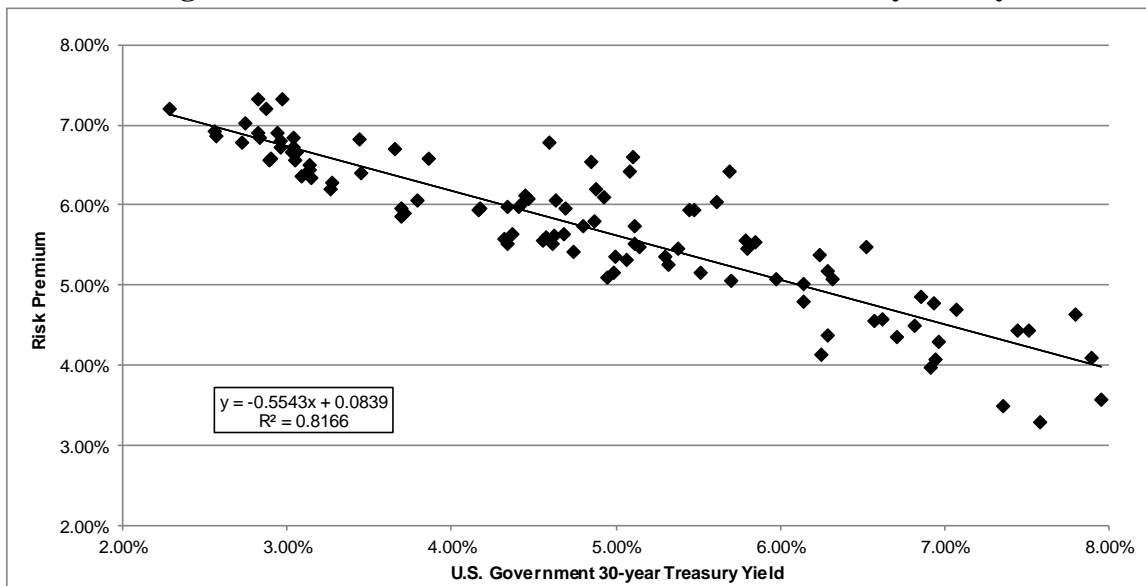
Interestingly, the intercept of the Wisconsin sample is 38 basis points higher than the national sample (i.e., .0904 vs. .0866). This means that, disregarding variation in interest rates, Wisconsin's electric utilities on average are allowed a 38 basis point higher return than is allowed nationally. As shown in Ex.-WEPCO WG-Bulkley-11, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 3.03 percent), the risk premium would be 7.36 percent, resulting in an estimated ROE of 10.40 percent, 43 basis points higher than the national survey. Based on the near-term (Q2 2019 – Q2 2020) projections of the 30-year U.S. Treasury bond yield (i.e., 3.52 percent), the risk premium would be 7.10 percent, resulting in an estimated ROE of 10.62 percent, 44 basis points higher than the national survey. Based on longer-term (2020-2024) projections of the 30-year U.S. Treasury bond yield (i.e., 3.90 percent), the risk premium would be 6.89

percent, resulting in an estimated ROE of 10.79 percent, 45 basis points higher than the national average.

**Q. What did your Bond Yield Plus Risk Premium analysis reveal for your national survey of gas distribution utilities?**

A. With respect to natural gas utilities, as shown in Figure 18, I have estimated the risk premium using allowed ROEs derived from 613 natural gas utility rate case decisions from 1992 through January 2019 as reported by RRA. This equation's coefficients were also statistically significant at the 99.0% confidence level and yielded very similar results to the electric survey above.

**Figure 18: Risk Premium Results - National Gas Utility Survey**



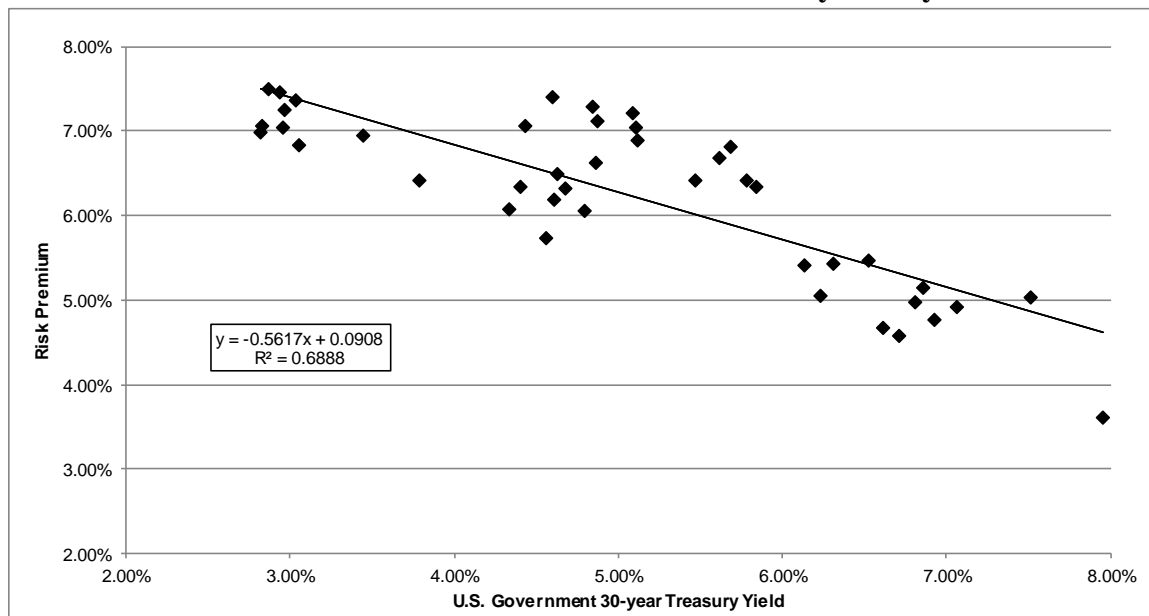
As shown in Ex.-WEPCO WG-Bulkley-12, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 3.03 percent), the risk premium would be 6.71 percent, resulting in an estimated ROE of 9.74 percent. Based on the near-term (Q2 2019 – Q2 2020) projections of the 30-year U.S. Treasury bond yield (i.e., 3.52 percent), the risk premium would be 6.44 percent, resulting in an estimated ROE of 9.96 percent.

Based on longer-term (2020-2024) projections of the 30-year U.S. Treasury bond yield (i.e., 3.90 percent), the risk premium would be 6.23 percent, resulting in an estimated ROE of 10.13 percent.

**Q. Have you performed a jurisdictionally focused Bond Yield Plus Risk Premium analysis for natural gas distribution utilities operating in the State of Wisconsin?**

A. Yes, I have. I conducted a similar analysis to those above using allowed ROEs derived solely from Wisconsin natural gas distribution utility rate case decisions from 1992 through January 2019; a total of 75 such cases were reported by RRA. This equation's coefficients were also statistically significant at the 99.0% confidence level.

**Figure 19: Risk Premium Results  
- Wisconsin Natural Gas Distribution Utility Survey**



Similar to the electric surveys, the intercept of the Wisconsin gas utility sample is 69 basis points higher than the national sample (i.e., .0908 vs. .0839), revealing that, interest rates aside, Wisconsin's natural gas distribution utilities on average are allowed a 69 basis point higher return than is allowed nationally. However, the differential is



1 somewhat tempered by the fact that the natural gas distribution utility data shows an even  
2 greater sensitivity to interest rates, which would moderate some of the premium earned  
3 by Wisconsin utilities. As shown in Ex.-WEPCO WG-Bulkley-13, based on the current  
4 30-day average of the 30-year U.S. Treasury bond yield (i.e., 3.03 percent), the risk  
5 premium would be 7.38 percent, resulting in an estimated ROE of 10.41 percent, 67 basis  
6 points higher than the national survey. Based on the near-term (Q2 2019 – Q2 2020)  
7 projections of the 30-year U.S. Treasury bond yield (i.e., 3.52 percent), the risk premium  
8 would be 7.11 percent, resulting in an estimated ROE of 10.63 percent, 67 basis points  
9 higher than the national survey. Based on longer-term (2020-2024) projections of the 30-  
10 year U.S. Treasury bond yield (i.e., 3.90 percent), the risk premium would be 6.89  
11 percent, resulting in an estimated ROE of 10.79 percent, 66 basis points higher than the  
12 national average.

13 **Q. How did the results of the Bond Yield Risk Premium inform your recommended**  
14 **ROE for the Companies?**

15 A. I have considered the results of the Bond Yield Risk Premium analysis in setting my  
16 recommended ROE for the Companies. The results of both my CAPM and Bond Yield  
17 Risk Premium analyses provide support for my view that the DCF model is understating  
18 investors' return requirements under current market conditions. For these reasons, I have  
19 weighted the results of my Bond Yield Risk Premium analyses equally with the results of  
20 the DCF and CAPM models.

1 **VIII. REGULATORY AND BUSINESS RISKS**

2 **Q. Do the median DCF and mean CAPM and Risk Premium results for the proxy**  
3 **groups, taken alone, provide an appropriate estimate of the cost of equity for**  
4 **WEPCO and WG?**

5 A. No. These results provide only a range of the appropriate estimate of the Companies' cost  
6 of equity. There are several additional factors that must be taken into consideration when  
7 determining where the Companies' cost of equity falls within the range of results. These  
8 factors, which are discussed below, should be considered with respect to their overall  
9 effect on the Companies' risk profile.

10 **A. Capital Expenditures**

11 **Q. Please summarize the Companies' capital expenditure requirements.**

12 A. The current projections for the period from 2019-2023 include approximately \$3,985  
13 million in capital investments for WEPCO and \$919 million for WG.<sup>76</sup> Based on net  
14 utility plant as of December 31, 2017 of approximately \$9,110.91 million for WEPCO  
15 and \$1,372.97 for WG,<sup>77</sup> the anticipated capital expenditures are approximately 43.74  
16 percent and 66.93 percent, respectively, of each Companies' net utility plant as of  
17 December 31, 2017.

18 **Q. How are the Companies' risk profiles affected by their substantial capital**  
19 **expenditure requirements?**

20 A. As with any utility faced with substantial capital expenditure requirements, the  
21 Companies' risk profiles may be adversely affected in two significant and related ways:

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<sup>76</sup> Data provided by the Companies for Capital Expenditures 2019-2023.

<sup>77</sup> Data provided by the Companies.

(1) the heightened level of investment increases the risk of under recovery or delayed recovery of the invested capital; and (2) an inadequate return would put downward pressure on key credit metrics.

**Q. Do credit rating agencies recognize the risks associated with elevated levels of capital expenditures?**

A. Yes, they do. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics and, therefore, credit ratings. To that point, S&P explains the importance of regulatory support for large capital projects:

When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an incentive to investors.<sup>78</sup>

Therefore, to the extent that the Companies' rates do not permit the opportunity to recover their full cost of doing business, the Companies will face increased recovery risk and thus increased pressure on its credit metrics.

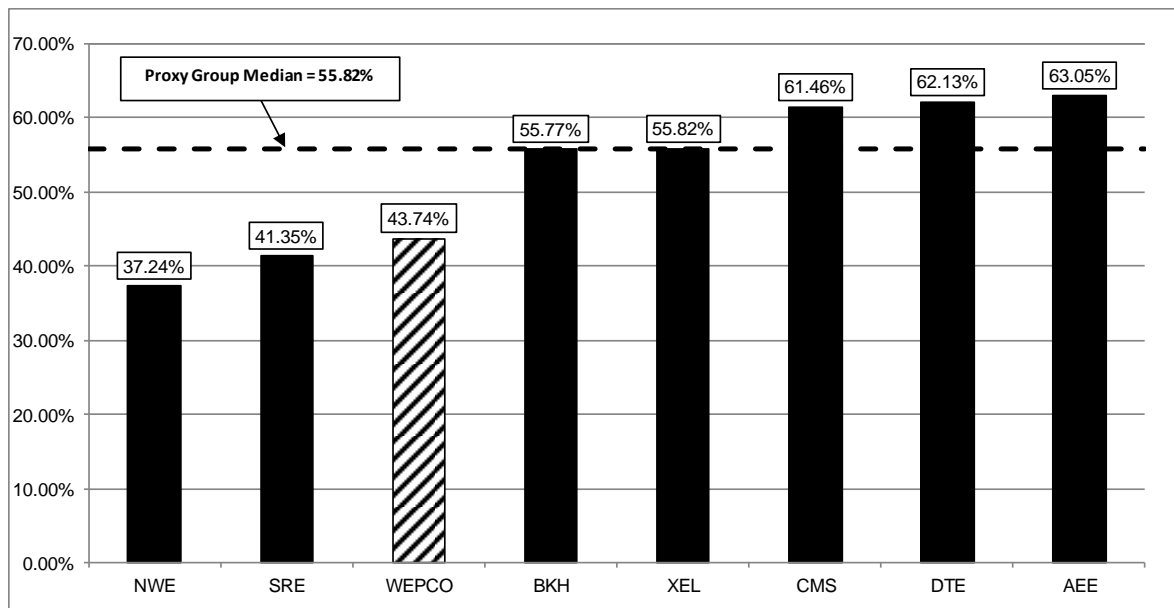
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<sup>78</sup> S&P, Assessing U.S. Investor-Owned Utility Regulatory Environments, at 7 (Aug. 10, 2016).

1 **Q. Have you conducted any analysis of WEPCO's projected capital expenditures**  
2 **relative to the proxy companies?**

3 A. Yes. I compared the ratio of capital expenditures to net utility plant for WEPCO and each  
4 of the companies in the CUPG. As shown in Ex.-WEPCO WG-Bulkley-14 (see also  
5 Figure 20 below), WEPCO's ratio of capital expenditures as a percentage of net utility  
6 plant of 43.74 percent is approximately 0.78 times the median for the proxy group  
7 companies of 55.82 percent. This result indicates moderate risk relative to the companies  
8 in the CUPG.

9 **Figure 20: Comparison of Capital Expenditures of WEPCO to CUPG**

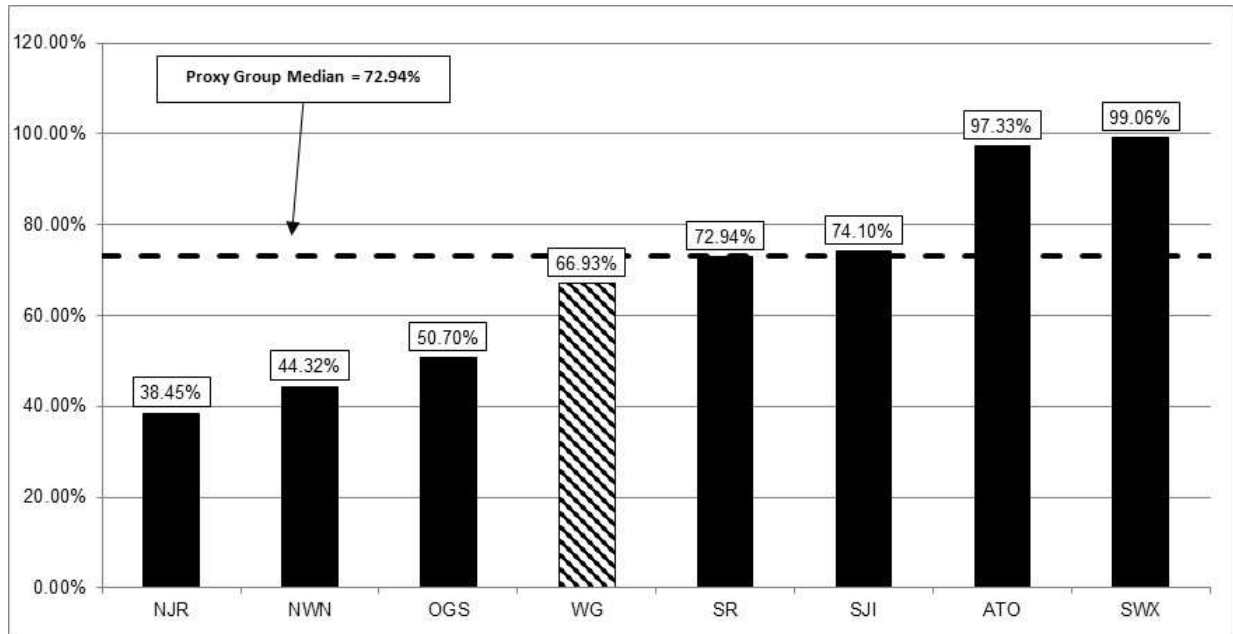


10  
11  
12 **Q. Have you conducted a similar analysis of WG's projected capital expenditures**  
13 **relative to the NGPG?**

14 A. Yes. I compared the ratio of capital expenditures to net utility plant for WG and each of  
15 the companies in the NGPG. As shown in Ex.-WEPCO WG-Bulkley-15 (see also Figure  
16 21 below), the NGPG median capital expenditures to net utility plant is 72.94 percent.  
17 WG's percentage of projected capital expenditures to net utility plant is within the range

established by the proxy group at 66.93 percent. This result indicates moderate risk relative to the companies in the NGPG.

**Figure 21: Comparison of Capital Expenditures of WG to NGPG**



**Q Do the Companies have a capital tracking mechanism to recover the costs associated with their capital expenditures plan between rate cases?**

A. No. WEPCO and WG have not requested nor received approval to recover capital investment costs between rate cases utilizing a capital tracking mechanism. Therefore, the Companies depend entirely on rate case filings for capital cost recovery. However, among the proxy groups, significant capital expenditures generally receive cost recovery through infrastructure and capital trackers. As shown in Ex.-WEPCO WG-Bulkley-16 and Ex.-WEPCO WG-Bulkley-17, 49 percent of the companies in the CUPG and 67 percent of the companies in the NGPG have some form of capital cost recovery mechanisms in place. Since, WEPCO and WG do not currently have a capital tracking

1 mechanism, WEPCO's and WG's risk relative to their respective proxy group is  
2 significantly increased.

3 **Q. What are your conclusions regarding the effect of the Companies' capital spending**  
4 **requirements on their risk profile and cost of capital?**

5 A. The Companies' capital expenditure requirements as a percentage of net utility plant are  
6 significant and will continue over the next few years. Additionally, unlike a number of  
7 the operating subsidiaries of the CUPG and NGPG, WEPCO and WG do not have a  
8 comprehensive capital tracking mechanism to recover the Companies' projected capital  
9 expenditures. Therefore, WEPCO's and WG's significant capital expenditure plans and  
10 limited ability to recover the capital investment costs in a timely manner results in a risk  
11 profile for the Companies that is greater than that of their respective proxy group and  
12 supports a ROE toward the higher end of the reasonable range of ROEs.

13 **B. Regulatory Risk**

14 **Q. Please explain how the regulatory environment affects investors' risk assessments.**

15 A. The ratemaking process is premised on the principle that, for investors and companies to  
16 commit the capital needed to provide safe and reliable utility service, the subject utility  
17 must have the opportunity to recover the return of, and the market-required return on,  
18 invested capital. Regulatory authorities recognize that because utility operations are  
19 capital intensive, regulatory decisions should enable the utility to attract capital at  
20 reasonable terms; doing so balances the long-term interests of investors and customers.  
21 WEPCO and WG are no exception. They must finance their operations and require the  
22 opportunity to earn a reasonable return on their invested capital to maintain their financial

1 profiles. In that respect, the regulatory environment is one of the most important factors  
2 considered in both debt and equity investors' risk assessments.

3 From the perspective of debt investors, the authorized return should enable the  
4 Companies to generate the cash flow needed to meet their near-term financial obligations,  
5 make the capital investments needed to maintain and expand their systems, and maintain  
6 the necessary levels of liquidity to fund unexpected events. This financial liquidity must  
7 be derived not only from internally generated funds, but also by efficient access to capital  
8 markets. Moreover, because fixed income investors have many investment alternatives,  
9 even within a given market sector, the Companies' financial profiles must be adequate on  
10 a relative basis to ensure their ability to attract capital under a variety of economic and  
11 financial market conditions.

12 Equity investors require that the authorized return be adequate to provide a risk-  
13 comparable return on the equity portion of the Companies' capital investments. Because  
14 equity investors are the residual claimants on the Companies' cash flows (which is to say  
15 that the equity return is subordinate to interest payments), they are particularly concerned  
16 with the strength of regulatory support and its effect on future cash flows.

17 **Q. Please explain how credit rating agencies consider regulatory risk in establishing a**  
18 **company's credit rating.**

19 A. Yes, both S&P and Moody's consider the overall regulatory framework in establishing  
20 credit ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory  
21 framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4)  
22 financial strength, liquidity and key financial metrics. Of these criteria, regulatory  
23 framework and the ability to recover costs and earn returns are each given a broad rating

1 factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00 percent  
2 weighting in the overall assessment of business and financial risk for regulated utilities.<sup>79</sup>  
3 S&P also identifies the regulatory framework as an important factor in credit ratings for  
4 regulated utilities, stating: "One significant aspect of regulatory risk that influences credit  
5 quality is the regulatory environment in the jurisdictions in which a utility operates."<sup>80</sup>  
6 S&P identifies four specific factors that it uses to assess the credit implications of the  
7 regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2)  
8 tariff-setting procedures and design; (3) financial stability; and (4) regulatory  
9 independence and insulation.<sup>81</sup>

10 **Q. How does the regulatory environment in which a utility operates affect its access to**  
11 **and cost of capital?**

12 A. The regulatory environment can significantly affect both the access to, and cost of capital  
13 in several ways. First, the proportion and cost of debt capital available to utility  
14 companies are influenced by the rating agencies' assessment of the regulatory  
15 environment. As noted by Moody's, "[f]or rate regulated utilities, which typically operate  
16 as a monopoly, the regulatory environment and how the utility adapts to that environment  
17 are the most important credit considerations."<sup>82</sup> Moody's further highlighted the  
18 relevance of a stable and predictable regulatory environment to a utility's credit quality,  
19 noting: "[b]roadly speaking, the Regulatory Framework is the foundation for how all the

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<sup>79</sup> Moody's, *Rating Methodology: Regulated Electric and Gas Utilities*, at 4 (June 23, 2017).

<sup>80</sup> S&P, *U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality—But Some More So Than Others*, at 2 (June 25, 2018).

<sup>81</sup> *Id.* at 1.

<sup>82</sup> Moody's, *Rating Methodology: Regulated Electric and Gas Utilities*, at 6 (June 23, 2017).



1 decisions that affect utilities are made (including the setting of rates), as well as the  
2 predictability and consistency of decision-making provided by that foundation.”<sup>83</sup>

3 **Q. Have you conducted any analysis of the regulatory framework in Wisconsin relative**  
4 **to the jurisdictions in which the companies in your CUPG and NGPG operate?**

5 A. Yes. I have evaluated the regulatory framework in Wisconsin on four factors that are  
6 important in terms of providing a regulated utility an opportunity to earn its authorized  
7 ROE. These are: 1) test year convention (i.e., forecast vs. historical); 2) method for  
8 determining rate base (i.e., average vs. year-end); 3) use of revenue decoupling  
9 mechanisms or other clauses that mitigate volumetric risk; and 4) prevalence of capital  
10 cost recovery between rate cases. The results of this regulatory risk assessment are shown  
11 in Ex.-WEPCO WG-Bulkley-16 for the CUPG and Ex.-WEPCO WG-Bulkley-17 for the  
12 NGPG and are summarized below.

13 Test Year Convention: WEPCO and WG use a fully forecast test year in  
14 Wisconsin which is similar to the companies in the CUPG and NGPG. More  
15 specifically, 46 percent of the CUPG and 39 percent of the NGPG provide service  
16 in jurisdictions that use a fully or partially forecast test year.

17 Rate Base: The Companies’ rate base in Wisconsin is determined based on a  
18 thirteen-month average. However, 34 percent of the operating subsidiaries held by  
19 the CUPG and 61 percent of the operating subsidiaries held by the NGPG are  
20 allowed to use year-end rate base, meaning that the rate base includes capital  
21 additions that occurred in the second half of the test year and is more reflective of  
22 net utility plant going forward.

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<sup>83</sup> *Id.*

1           Volumetric Risk: WEPCO and WG do not have protection against volumetric risk  
2           in Wisconsin, either through a revenue decoupling mechanism or a weather  
3           normalization adjustment clause. By comparison, 40 percent of the operating  
4           companies held by the CUPG and 89 percent of the operating companies held by  
5           the NGPG have some form of protection against volumetric risk.

6           Capital Cost Recovery: As discussed above, WEPCO and WG do not have a  
7           capital tracking mechanism to recover capital investment costs between rate  
8           cases. However, 49 percent of the operating companies held by the CUPG and 67  
9           percent of the operating companies held by the NGPG have some form of capital  
10          cost recovery mechanism in place.

11   **Q.     Since WEPCO and WG have fewer regulatory mechanisms than their respective**  
12   **proxy groups, do you conclude that they are riskier than their proxy groups?**

13   A.     The Companies have greater volumetric risk and greater risk around cost recovery  
14          relative to their respective proxy group companies. All else aside, this would indicate an  
15          allowed ROE toward the upper end of the range of ROE results. However, as I  
16          determined in reviewing the allowed returns for Wisconsin utilities in my risk premium  
17          analyses, discussed in Section VII, the Wisconsin utilities (WEPCO and WG included)  
18          typically enjoy a slight premium equity return when compared to utilities nationally. So,  
19          as other utilities may have lesser risk around cost recovery, the Wisconsin utilities are  
20          provided a buffer so that they can weather such risks. This has the added advantage of  
21          providing additional credit support for the utilities which will ultimately lower debt costs.  
22          Though it may not be entirely equal, it is possible that the risks to earnings of having less

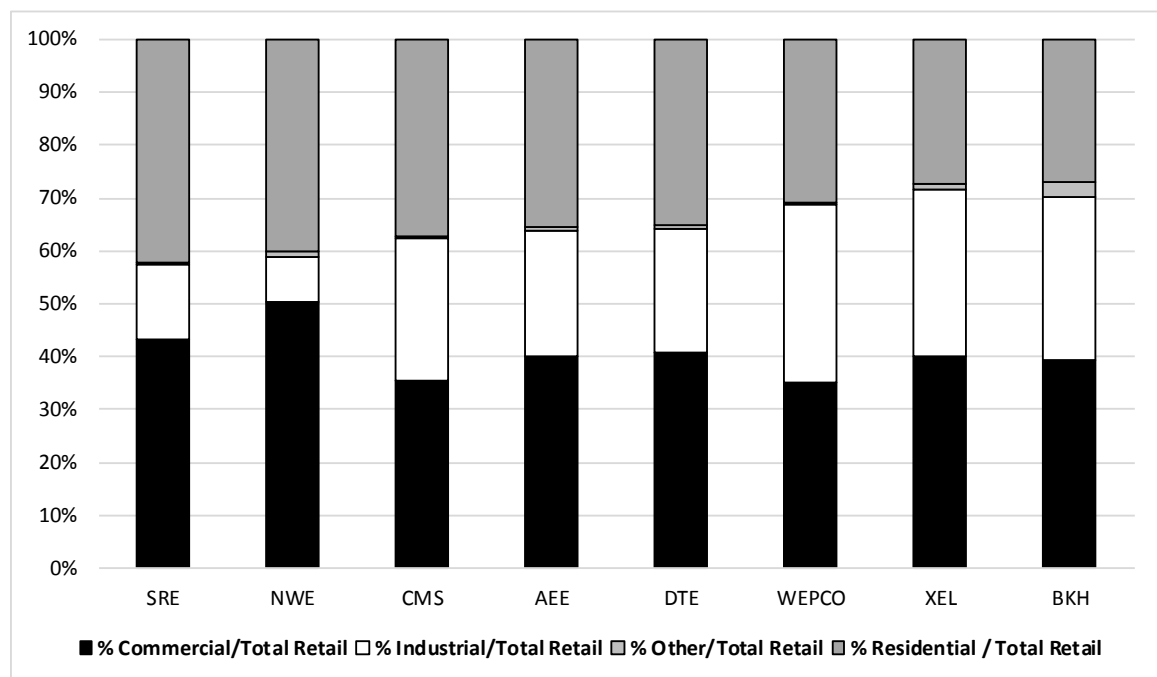
automatic recovery is generally mitigated by the premium Wisconsin utilities typically earn on their equity.

### C. Customer Concentration

**Q. Please summarize WEPCO's customer concentration risk.**

**A.** Approximately 33 percent of WEPCO's 2017 total retail electric sales were derived from industrial customers, the highest percentage in the CUPG. As shown in Figure 22, WEPCO's commercial and industrial sales volume as a percentage of total retail electric sales was 69 percent, which is higher than all but two of the companies in the CUPG.<sup>84</sup>

**Figure 22: Customer Concentration - WEPCO<sup>85</sup>**



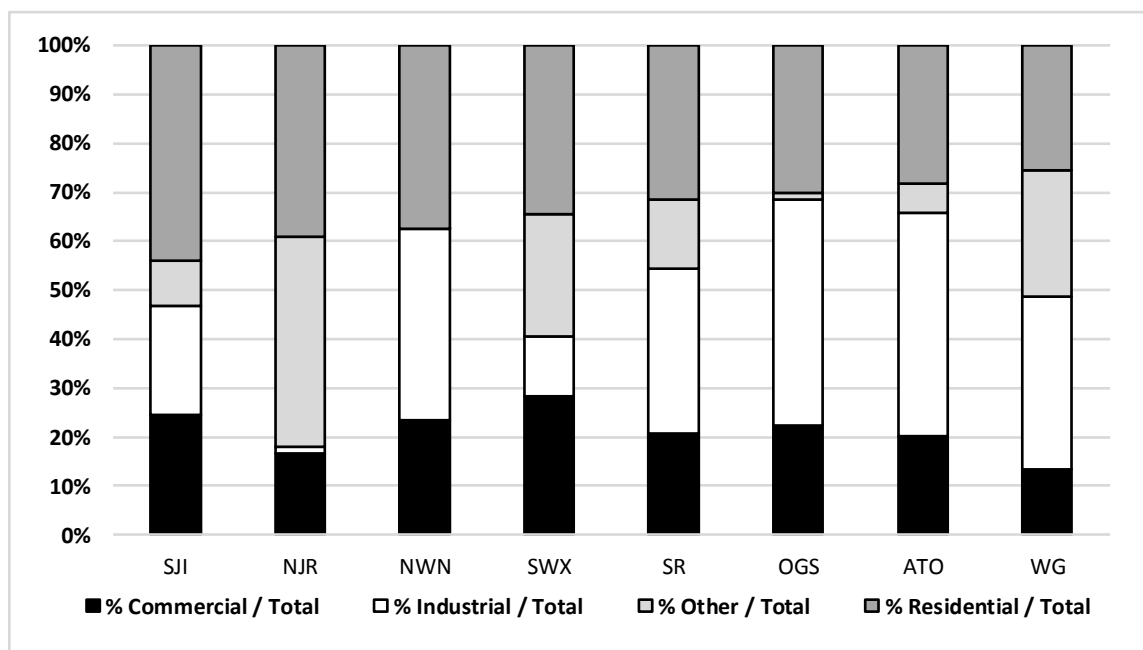
<sup>84</sup> Does not include "other" or residential customers.

<sup>85</sup> Source: SNL Financial - Other sales includes: Total Public Street and Highway Lighting, Other Sales to Public Authorities, Sales to Railroad and Railways, and Interdepartmental Sales.

1 **Q. Have you performed a similar analysis for WG?**

2 A. Yes. For WG, approximately 26 percent of total company utility gas sales in 2017 were  
3 derived from electric power which is the second highest percentage in the NGPG.  
4 Additionally, as shown in Figure 23, approximately 61 percent of WG's total company  
5 utility gas sales in 2017 were derived from industrial customers and electric power. This  
6 percentage is higher than all other companies in the NGPG.

7 **Figure 23: Customer Concentration - WG<sup>86</sup>**



8  
9 **Q. How does customer concentration affect business risk?**

10 A. A relatively high concentration of commercial and industrial customers results in higher  
11 business risk. Since the customers are large, they can represent a significant portion of a  
12 company's sales which could be lost if a customer goes out of business or switches  
13 suppliers. As noted by Dhaliwal, Judd, Serfling and Shaikh:

<sup>86</sup> EIA FORM 176 - Other sales includes Electric Power (i.e., Gas used as fuel in the electric power sector) and Vehicle Fuel Volume (i.e., the quantity of fuel used by vehicles).

1 Depending on a major customer for a large portion of sales can be  
2 risky for a supplier for two primary reasons. First, a supplier faces  
3 the risk of losing substantial future sales if a major customer  
4 becomes financially distressed or declares bankruptcy, switches to a  
5 different supplier, or decides to develop products internally.  
6 Consistent with this notion, Hertz et al. (2008) and Kolay et al.  
7 (2015) document negative supplier abnormal stock returns to the  
8 announcement that a major customer declares bankruptcy. Further, a  
9 customer's weak financial condition or actions could signal inherent  
10 problems about the supplier's viability to its remaining customers  
11 and lead to compounding losses in sales. Second, a supplier faces the  
12 risk of losing anticipated cash flows from being unable to collect  
13 outstanding receivables if the customer goes bankrupt. This assertion  
14 is consistent with the finding that suppliers offering customers more  
15 trade credit experience larger negative abnormal stock returns  
16 around the announcement of a customer filing for Chapter 11  
17 bankruptcy (Jorion and Zhang, 2009; Kolay et al., 2015).<sup>87</sup>

18 Therefore, a company that has a high degree of customer concentration will have greater  
19 risk than a company that derived income from a larger customer base. Furthermore, as  
20 Dhaliwal, Judd, Serfling and Shaik detail in their article, the increased risk associated  
21 with a more concentrated customer base will have the effect of increasing a company's  
22 cost of equity.<sup>88</sup>

23 **Q. Please describe how changes in economic conditions and WEPCO's and WG's high**  
24 **degree of customer concentration can affect their business risks.**

25 A. While WEPCO and WG don't depend on any one major customer, they both have a high  
26 concentration of industrial customers. WEPCO's and WG's major industrial customers  
27 are engaged in manufacturing products for industries such as food production, paper,  
28 printing/publishing, chemicals, rubber & plastics, primary metals, fabricated metal

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<sup>87</sup> Dan S. Dhaliwal, J. Scott Judd, Matthew A. Serfling, and Sarah Shaikh, *Customer Concentration Risk and the Cost of Equity Capital*, SSRN Electronic Journal, at 1-2 (2016).

<sup>88</sup> *Id.* at 4.

1 products, non-electrical machinery, electrical machinery, and transportation equipment.

2 The manufacturing industry is dependent on economic conditions and the business cycle.

3 **Q. How has manufacturing employment fared in recent economic conditions?**

4 A. As shown in Figure 24, total manufacturing employment in Wisconsin decreased 15.50

5 percent from the beginning of 2007 to the end of 2009 before beginning to gradually

6 increase in 2010 as the U.S. entered the economic recovery phase of the business cycle.

7 However, as of September 2018, manufacturing employment in Wisconsin had still not

8 achieved pre-recession levels.

9 **Q. Are WEPCO's electric sales and WG's natural gas delivery volume dependent on**  
10 **the manufacturing industry?**

11 A. Yes. In 2018, less than 1 percent of WEPCO's customers are large customers in

12 manufacturing, representing 26 percent of WEPCO's electric sales. Similarly, less than 1

13 percent of WG's customers are large customers in manufacturing, representing 23 percent

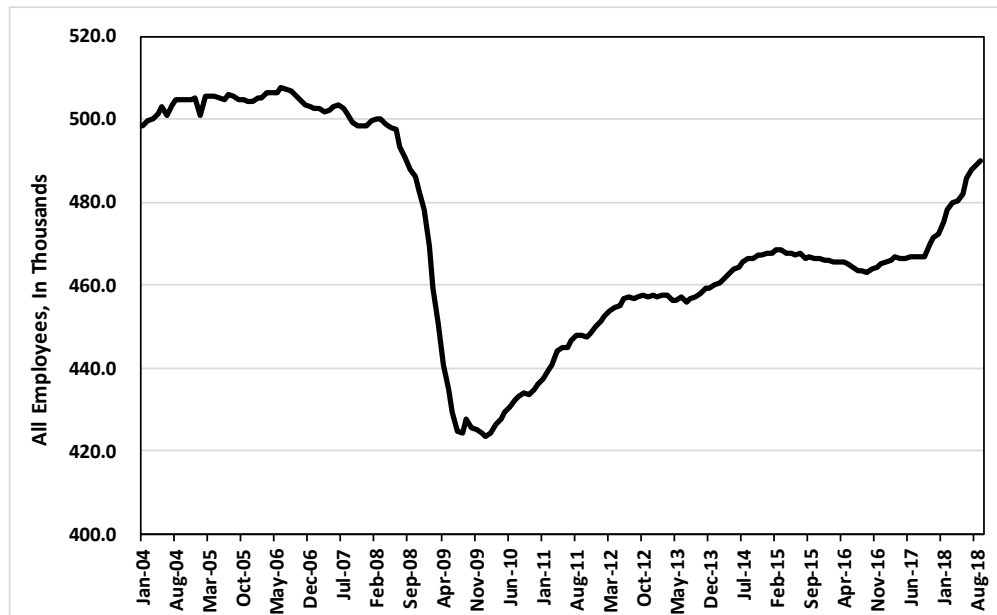
14 of WG's distribution load. Fluctuations in the business cycle could have a large impact on

15 the electric and gas sales of WEPCO and WG. Furthermore, if manufacturing firms

16 reduce output due to weak economic conditions, the effect could be compounded if local

17 employment declined, reducing the sales volume for WEPCO and WG.

**Figure 24: Wisconsin Manufacturing Employment (Thous.)**



**Q. Are you aware of other risk factors that could affect WEPCO's and WG's business operations?**

**A.** WEPCO and WG are also in direct competition with other sources of energy such as natural gas, diesel, solar and wind among others. For WEPCO, this creates an additional risk that customers in the commercial and industrial classes could install onsite generation to serve a substantial portion of their energy needs. In the case of WG, depending on how competitive the price of gas is to other sources of energy, there is the risk that customers in the commercial and industrial classes could switch to an alternative energy source. Furthermore, as discussed above, a large portion of WG's distribution load is derived from electric power sales. Natural Gas generation could face increased competition in the near and long-term from renewable generation due to various subsidies and mandates for renewable generating technologies. Thus, WEPCO's and WG's reliance on a large percentage of commercial and industrial load results in an increased risk of volatility with respect to sales, earnings, and cash flow.

1 **Q. What is your conclusion regarding the Companies' customer concentration and its**  
2 **effect on the cost of equity for WEPCO and WG?**

3 A. WEPCO is heavily reliant on sales to commercial and industrial customers. As noted  
4 above, 69 percent of WEPCO's total retail electric sales were to commercial and  
5 industrial customers, and 33 percent of sales were to industrial customers. This industrial  
6 concentration is higher than all of the CUPG companies. Similarly, WG is heavily reliant  
7 on sales to industrial customers and electric power generation. Sixty-one percent of WG's  
8 total company utility gas sales were to industrial customers and electric power  
9 generation. This concentration is higher than all of the NGPG companies. A high degree  
10 of customer concentration increases the Companies' risk related to customer migration,  
11 economic conditions or competition. Increased customer diversity decreases the effect  
12 that any one customer can have on a company's sales. Thus, the Companies' heavy  
13 customer concentration in a small number of customers within the commercial and  
14 industrial rate classes implies that both WEPCO and WG have an above average risk  
15 profile when compared to the companies in the CUPG and NGPG.

16 **D. Generation Ownership**

17 **Q. How does the business risk of vertically-integrated electric utilities compare to the**  
18 **business risk of other regulated utilities?**

19 A. According to Moody's, generation ownership causes vertically-integrated electric utilities  
20 to have higher business risk than either electric transmission and distribution companies,  
21 or natural gas distribution or transportation companies.<sup>89</sup> As a result of this higher

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<sup>89</sup> Moody's, *Rating Methodology: Regulated Electric and Gas Utilities*, at 21-22 (June 23, 2017).



1 business risk, integrated electric utilities typically require a higher percentage of equity in  
2 the capital structure than other electric or gas utilities.

3 **Q. Are there other risk factors specific to vertically-integrated electric utilities that the**  
4 **credit rating agencies consider when determining the credit rating of a company**  
5 **that owns generation?**

6 A. Yes. As discussed above, Moody's establishes credit ratings based on four key factors:  
7 (1) regulatory framework; (2) the ability to recover costs and earn returns; (3)  
8 diversification; and (4) financial strength, liquidity and key financial metrics. The third  
9 factor diversification, which Moody's assigns a 10.00 percent weighting in the overall  
10 assessments of a company's business risk, considers the fuel source diversity of a utility  
11 with generation. Moody's notes:

12 For utilities with electric generation, fuel source diversity can  
13 mitigate the impact (to the utility and to its rate-payers) of changes in  
14 commodity prices, hydrology and water flow, and environmental or  
15 other regulations affecting plant operations and economics. We have  
16 observed that utilities' regulatory environments are most likely to  
17 become unfavorable during periods of rapid rate increases (which  
18 are more important than absolute rate levels) and that fuel diversity  
19 leads to more stable rates over time.

20 For that reason, fuel diversity can be important even if fuel and  
21 purchased power expenses are an automatic pass-through to the  
22 utility's ratepayers. Changes in environmental, safety and other  
23 regulations have caused vulnerabilities for certain technologies and  
24 fuel sources during the past five years. These vulnerabilities have  
25 varied widely in different countries and have changed over time.<sup>90</sup>

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<sup>90</sup> *Id.* at 16.

1   **Q.    Have you conducted an analysis to compare the fuel sources for the generation**  
2       **portfolio of WEPCO to the companies in your CUPG?**

3    A.    Yes, I have. Specifically, I calculated for WEPCO and each company in the CUPG, the  
4       percentage of regulated owned generation capacity that was derived from one of the  
5       following fuel sources: oil/natural gas, coal, nuclear, hydro and other.<sup>91</sup> As shown in  
6       Figure 25, approximately 43 percent of WEPCO's regulated owned generation came  
7       from coal-fired power plants with approximately 91 percent coming from either oil,  
8       natural gas or coal-fired power plants. Therefore, WEPCO is heavily reliant on a limited  
9       number of fuel sources for its regulated generation and overall less diversified than the  
10      companies in the CUPG.

---

<sup>91</sup>       The other category contains regulated owned generation capacity from fuel sources such as other non-renewable generation, biomass, wind, solar, and geothermal.

**Figure 25: Regulated Owned Generation Capacity - Fuel Mix for WEPCO and CUPG<sup>92</sup>**

Company	Oil & Natural Gas	Coal	Nuclear	Hydro	Other	Total Generation
Ameren Corporation	31.40%	49.98%	11.13%	7.32%	0.16%	100.00%
Black Hills Corporation	46.86%	53.14%	0.00%	0.00%	0.00%	100.00%
CMS Energy Corporation	51.89%	23.77%	0.00%	19.95%	4.38%	100.00%
DTE Energy Company	27.67%	52.08%	9.79%	8.51%	1.94%	100.00%
NorthWestern Corporation	24.69%	32.76%	0.00%	32.77%	9.78%	100.00%
Sempra Energy	95.88%	0.00%	0.00%	0.00%	4.12%	100.00%
Wisconsin Electric Power Company	48.00%	43.41%	0.00%	1.59%	7.00%	100.00%
Xcel Energy Inc.	48.24%	34.46%	9.26%	2.94%	5.10%	100.00%

**Q. Has the Company developed a plan to reshape its generation portfolio over the near and long-term?**

A. Yes. WEC, WEPCO's parent company, recently outlined a plan for reshaping its generation portfolio including retiring more than 1,800 MW of coal generation, building new natural gas generation and investing in new zero carbon generation such as solar.<sup>93</sup> More specifically, the plan includes the retirement of two of WEPCO's coal-fired power plants (i.e., Pleasant Prairie Power Plant and Presque Isle Power Plant). Pleasant Prairie was retired in April 2018 and the Company expects to retire Presque Isle in the second quarter of 2019. Additionally, the plan includes further investment in zero carbon generation which for WEPCO will include the purchase of 150 MW of solar generation from a developer. Therefore, the plan as whole is expected to increase fuel diversity and reduce customer costs and carbon emissions.

**Q. How does the Company's generation plan affect its business risk?**

A. The Company's plan involves the retirement of existing coal-fired generation. As discussed above, the Company recently retired its Pleasant Prairie power plant which as of the date of retirement had an unrecovered book balance. As discussed in the Direct

<sup>92</sup> Source: SNL Financial.

<sup>93</sup> WEC Energy Group, Focused on Performance, Investor Update: September 2018, at 14-19.

1 Testimonies of Company Witnesses Dan Krueger and Rich Stasik, the Company has  
2 proposed to recover the unrecovered book balances of Pleasant Prairie. The recovery of  
3 these costs is important from a credit quality perspective. As discussed in the Direct  
4 Testimony of Todd Shipman, any disallowance of the investment could affect the credit  
5 agencies views towards the overall regulatory support for WEPCO in Wisconsin. In  
6 addition, any disallowance or uncertainty regarding the recovery of the investment would  
7 have a negative effect on the views of investors towards the risk profile of the Company  
8 since investors assume that a utility will be afforded the opportunity to recover all  
9 prudently incurred investments.

10 Furthermore, the Company's plan includes investment in new generation such as more  
11 efficient natural gas power plants as well as solar and wind generation. The Company's  
12 investment in new generation will require continued access to capital markets which  
13 highlights the importance of granting WEPCO an allowed ROE and equity ratio that is  
14 sufficient to attract capital at reasonable terms.

15 **Q. What are your conclusions regarding the perceived risks related to the fuel mix of**  
16 **WEPCO's generation portfolio?**

17 A. WEPCO generates a significant percentage of its electricity using coal-fired generation  
18 which is subject to increased environmental regulations aimed at cutting power plant  
19 emissions. The environmental regulations pose additional business risk as sizable future  
20 capital expenditures may be required to comply with regulations. Furthermore, the  
21 Company recently outlined a plan for reshaping its generation portfolio. While the  
22 Company has enacted a plan to improve fuel diversity over the long-run, the plan will  
23 require continued access to capital markets to finance the new investments. The

Company's existing generation portfolio and proposed generation investment plan increase the overall risk profile as compared with the proxy group.

**IX. CAPITAL STRUCTURE AND COST OF DEBT**

**Q. Is the capital structure of a company an important consideration in the determination of the appropriate ROE?**

A. Yes, it is. Assuming other factors equal, a higher debt ratio increases the risk to investors. For debt holders, higher debt ratios result in a greater portion of the available cash flow being required to meet debt service, thereby increasing the risk associated with the payments on debt. The result of increased risk is a higher interest rate. The incremental risk of a higher debt ratio is more significant for common equity shareholders. Common shareholders are the residual claimants on the cash flow of a company. Therefore, the greater the debt service requirement, the less cash flow available for common equity holders.

**Q. What are the Companies' proposed capital structures?**

A. Figure 26 below summarizes the Companies' proposed capital structures.

**Figure 26: WEPCO and WG Proposed Capital Structures**

	WEPCO	WG
Equity	53.99%	51.52%
Preferred Stock	0.44%	0.00%
Long-Term Debt	42.24%	45.10%
Short-Term Debt	3.34%	3.38%

**Q. Did you conduct any analysis to determine if the requested equity ratios were reasonable?**

A. Yes, I did. I reviewed the Companies' historical actual capital structure and the capital structures of the utility operating subsidiaries of the companies in the CUPG and the

1 NGPG. Since the ROE is set based on the return that is derived from the risk-comparable  
2 proxy group, it is reasonable to look to the average capital structure for the proxy groups  
3 to benchmark the equity ratios for the Companies.

4 **Q. Please discuss your analysis of the capital structures of the companies in the CUPG.**

5 A. I calculated the mean proportions of common equity, long-term debt, short-term debt and  
6 preferred equity over the most recent eight quarters<sup>94</sup> for each of companies in the CUPG  
7 at the operating subsidiary level. My analysis of the capital structures of the companies in  
8 the CUPG is provided in Ex.-WEPCO WG-Bulkley-18. As shown in Ex.-WEPCO WG-  
9 Bulkley-18, the eight-quarter average equity ratios for the CUPG at the operating utility  
10 company level ranged from 46.27 percent to 54.97 percent with an average of 51.29  
11 percent. In the most recent quarter (Q3 2018), the range increased to 48.36 percent to a  
12 high of 55.02 percent with a mean of 51.64 percent. WEPCO's proposed equity ratio of  
13 53.99 percent is reasonably close to the mean of the CUPG and well within the range  
14 established by the capital structures of the operating companies in the CUPG.

15 **Q. Please discuss your analysis of the capital structures of the companies in the NGPG.**

16 A. I performed a similar calculation as discussed above for each of the NGPG proxy group  
17 companies at the operating company level. However, since the data for the natural gas  
18 utility subsidiaries is not available quarterly, I calculated the mean proportions of  
19 common equity, long-term debt, short-term debt and preferred equity for the most recent

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<sup>94</sup> The source data for this analysis is the operating company data provided in FERC Form 1 reports. Due to the timing of those filings, my average capital structure analysis uses the quarterly capital structures reported for the proxy group companies for the period from the fourth quarter of 2016 through the third quarter of 2018.

1 year for each of companies in the NGPG at the operating subsidiary level.<sup>95</sup> My analysis  
2 of the capital structures of the companies in the NGPG is provided in Ex.-WEPCO WG-  
3 Bulkley-19. As shown in Ex.-WEPCO WG-Bulkley-19, the equity ratios for the NGPG  
4 at the operating utility company level ranged from 47.00 percent to 63.18 percent with an  
5 average of 52.94 percent. WG's proposed equity ratio of 51.52 percent is slightly below  
6 the mean of the NGPG and well within the range established by the capital structures of  
7 the operating companies in the NGPG.

8 **Q. Are there other factors to be considered in setting the Companies' capital**  
9 **structures?**

10 A. Yes. The credit rating agencies' response to the TCJA must also be considered when  
11 determining the equity ratio. As discussed previously in my testimony, all three rating  
12 agencies have noted that the TCJA has negative implications for utility cash flows. S&P  
13 and Fitch have specifically identified increasing the equity ratio as one approach to  
14 ensure that utilities have sufficient cash flows following the tax cuts and the loss of bonus  
15 depreciation. Furthermore, Moody's unprecedented downgrade of the rating outlook for  
16 the entire utilities sector in June 2018 stresses the importance of maintaining adequate  
17 cash flow metrics for the industry as a whole and WEPCO and WG in the context of this  
18 proceeding. Finally, in its recent credit opinion, Moody's downgraded WEC to Baa1  
19 from A3 due partially to the impact on cash flows of tax reform. However, Moody's  
20 noted that the outlook for WEC is stable assuming that there are no changes in ratings of

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<sup>95</sup> Source: SNL Financial and FERC Form 1 and FERC Form 2 annual reports.

1 key subsidiaries and that the regulatory environments of the utility subsidiaries remain  
2 credit supportive.<sup>96</sup>

3 **Q. Is there a relationship between the equity ratio and the authorized ROE?**

4 A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such  
5 as WEPCO and WG. To the extent the equity ratio is reduced, it is necessary to increase  
6 the authorized ROE to compensate investors for the greater financial risk associated with  
7 a lower equity ratio.

8 **Q. What is your conclusion regarding the Companies' proposed capital structures?**

9 A. Considering the actual capital structures of the operating companies in the CUPG and  
10 NGPG, I find that the proposed common equity ratios of 53.99 percent for WEPCO and  
11 51.52 percent for WG to be reasonable. The proposed equity ratio for WEPCO is well  
12 within the range established by the capital structures of the utility operating subsidiaries  
13 of the CUPG. Similarly, the proposed equity ratio for WG is well within the range of  
14 equity ratios established by the utility operating companies in the NGPG. In addition,  
15 based on the cash flow concerns raised by credit rating agencies as a result of the TCJA,  
16 it is reasonable to rely on a higher equity ratio than the Companies may have relied on in  
17 prior cases.

18 **Q. Have you evaluated the Companies' proposed cost of long-term debt?**

19 A. Yes, I have reviewed the embedded cost of long-term debt for both WEPCO and WG.  
20 My analysis evaluated the cost at the time of issuance in comparison with the market at  
21 that time. I used the Moody's Baa and A-rated utility bond indexes as the estimate of the

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<sup>96</sup> Moody's Investors Service, Rating Action: Moody's downgrades WEC Energy, Wisconsin Energy Capital and Integrys to Baa1 from A3; stable outlook, July 12, 2018.



1 market. As shown in Ex.-WEPCO WG-Bulkley-20 that analysis indicates that the  
2 Companies' embedded costs of long-term debt are reasonable.

3 **X. CONCLUSIONS AND RECOMMENDATION**

4 **Q. What is your conclusion regarding a fair ROE for WEPCO and WG?**

5 A. Based on the quantitative and qualitative analyses presented in my Direct Testimony, and  
6 in light of the business and financial risks of WEPCO and WG compared to their  
7 respective proxy group, and the effects of Federal tax reform on the cash flow metrics of  
8 utilities, it is my view that an ROE of 10.35 for WEPCO and 10.30 for WG would fairly  
9 balance the interests of customers and shareholders. These ROEs would enable the  
10 Companies to maintain their financial integrity and therefore their ability to attract capital  
11 at reasonable rates under a variety of economic and financial market conditions, while  
12 continuing to provide safe, reliable and affordable electric and natural gas utility service  
13 to customers in Wisconsin.

1

**Figure 27: Summary of Analytical Results for WEPCO<sup>97</sup>**

<b>CUPG</b>			
<b>Constant Growth DCF</b>			
	Median Low	Median	Median High
30-Day Average Price	9.15%	9.86%	10.47%
90-Day Average Price	9.12%	9.83%	10.46%
180-Day Average Price	9.23%	9.94%	10.57%
<b>CAPM</b>			
	Current Risk-Free Rate (3.03%)	Q2 2019 – Q2 2020 Projected Risk-Free Rate (3.52%)	2020-2024 Projected Risk-Free Rate (3.90%)
CAPM Results	10.12%	10.32%	10.47%
<b>Bond Yield Plus Risk Premium</b>			
	Current Risk-Free Rate (3.03%)	Q2 2019 – Q2 2020 Projected Risk-Free Rate (3.52%)	2020-2024 Projected Risk-Free Rate (3.90%)
National rate case decisions	9.97%	10.18%	10.34%
Wisconsin rate case decisions	10.40%	10.62%	10.79%

2

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<sup>97</sup>

The analytical results included in Figure 27 reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

**Figure 28: Summary of Analytical Results for WG<sup>98</sup>**

<b>NGPG</b>			
<b>Constant Growth DCF</b>			
	Median Low	Median	Median High
30-Day Average Price	8.24%	9.69%	12.16%
90-Day Average Price	8.58%	9.63%	12.12%
180-Day Average Price	8.26%	9.72%	12.17%
<b>CAPM</b>			
	Current Risk-Free Rate (3.03%)	Q2 2019 – Q2 2020 Projected Risk-Free Rate (3.52%)	2020-2024 Projected Risk-Free Rate (3.90%)
CAPM Results	10.97%	11.13%	11.25%
<b>Bond Yield Plus Risk Premium</b>			
	Current Risk-Free Rate (3.03%)	Q2 2019 – Q2 2020 Projected Risk-Free Rate (3.52%)	2020-2024 Projected Risk-Free Rate (3.90%)
National rate case decisions	9.74%	9.96%	10.13%
Wisconsin rate case decisions	10.41%	10.63%	10.79%

**Q. What is your conclusion with respect to the Companies' proposed capital structures?**

**A.** My conclusion is that the Companies' proposal to establish a capital structure consisting of 53.99 percent common equity, 42.24 percent long-term debt, 3.34 percent short-term debt and 0.44 percent preferred stock for WEPCO and 51.52 percent common equity, 45.10 percent long-term debt, 3.38 percent short-term debt and 0.00 percent preferred stock for WG is reasonable when compared to the capital structures of the companies in the CUPG and NGPG and taking in consideration the impact of the TCJA on the cash flows and therefore should be adopted.

<sup>98</sup> The analytical results included in Figure 28 reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

1    **Q.**     **Does this conclude your Direct Testimony?**

2    **A.**     Yes, it does.